Extracts from the Register of Copyrights

प्रतिलिप्यधिकार कार्यालय, भारत सरकार | Copyright Office, Government Of India

दिनांक/Dated:20/03/2024

1.	अधिकरण संख्या/Registration Number	L-145429/2024
2.	आवेदक का नाम, पता तथा राष्ट्रीयता Name, address and nationality of the applicant	DR. SANGEETA N KAKARWAL , SHRI SAI VIHAR APRATMENT FLAT A-2 KHADKESHWAR CHH. SAMBHAJINAGAR-431001-431001 INDIAN MR. SHASHANK GADLING , CSE DEPT, INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT, OPP. BAJAJ AUTO LTD WALUJ, CHH. SAMBHAJINAGAR-431136 INDIAN MR. DINESH SAPKAL , CSE DEPT, INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT, OPP. BAJAJ AUTO LTD WALUJ, CHH. SAMBHAJINAGAR-431136 INDIAN
3.	कृति के प्रतिलिप्यधिकार में आवेदक के हित की प्रकृति Nature of the applicant's interest in the copyright of the work	AUTHOR
4.	कृति का वर्ग और वर्णन Class and description of the work	LITERARY/ DRAMATIC WORK ICEEM, CSE DEPARTMENT, PROGRAMMING IN JAVA ACTIVITIES IN 2023 AND 24
5.	कृति का शीर्षक Title of the work	ICEEM, CSE DEPARTMENT, PROGRAMMING IN JAVA ACTIVITIES IN 2023-2024
6.	कृति की भाषा Language of the work	ENGLISH
7.	रचयिता का नाम, पता और राष्ट्रीयता तथा यदि रचयिता की मृत्यु हो गई है, तो मृत्यु की तिथि Name, address and nationality of the author and if the author is deceased, date of his decease	DR. SANGEETA N KAKARWAL , SHRI SAI VIHAR APRATMENT FLAT A-2 KHADKESHWAR CHH. SAMBHAJINAGAR-431001-431001 INDIAN MR. SHASHANK GADLING , CSE DEPT, INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT, OPP. BAJAJ AUTO LTD WALUJ, CHH. SAMBHAJINAGAR-431136 INDIAN MR. DINESH SAPKAL , CSE DEPT, INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT, OPP. BAJAJ AUTO LTD WALUJ, CHH. SAMBHAJINAGAR-431136 INDIAN
8.	कृति प्रकाशित है या अप्रकाशित Whether the work is published or unpublished	UNPUBLISHED
9.	प्रथम प्रकाशन का वर्ष और देश तथा प्रकाशक का नाम, पता और राष्ट्रीयता Year and country of first publication and name, address and nationality of the publisher	N.A.
10.	बाद के प्रकाशनों के वर्ष और देश, यदि कोई हों, और प्रकाशकों के नाम, पते और राष्ट्रीयताएँ Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers	N.A.
11.	कृति में प्रतिलिप्यधिकार सहित विभिन्न अधिकारों के स्वामियों के नाम, पते और राष्ट्रीयताएं और समनुदेशन और अनुज्ञप्तियों के विवरण के साथ प्रत्येक के अधिकार का विस्तार, यदि कोई हो। Names, addresses and nationalities of the owners of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licences, if any	DR. SANGEETA N KAKARWAL , SHRI SAI VIHAR APRATMENT FLAT A-2 KHADKESHWAR CHH. SAMBHAJINAGAR-431001-431001 INDIAN MR. SHASHANK GADLING , CSE DEPT, INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT, OPP. BAJAJ AUTO LTD WALUJ, CHH. SAMBHAJINAGAR-431136 INDIAN MR. DINESH SAPKAL , CSE DEPT, INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT, OPP. BAJAJ AUTO LTD WALUJ, CHH. SAMBHAJINAGAR-431136 INDIAN
12.	अन्य व्यक्तियों के नाम, पते और राष्ट्रीयताएं, यदि कोई हों, जो प्रतिलिप्यधिकार वाले अधिकारों को समनुदेशित करने या अनुज्ञप्ति देने के लिए अधिकृत हों Names, addresses and nationalities of other persons, if any, authorised to assign or licence of rights comprising the copyright	N.A.
13.	यदि कृति एक 'कलात्मक कृति' है, तो कृति पर अधिकार रखने वाले व्यक्ति का नाम, पता और राष्ट्रीयता सहित मूल कृति का स्थान। (एक वास्तुशिल्प कृति के मामले में कृति पूरी होने का वर्ष भी दिखाया जाना चाहिए) If the work is an 'Artistic work', the location of the original work, including name, address and nationality of the person in possession of the work. (In the case of an architectural work, the year of completion of the work should also be shown).	N.A.
14.	यदि कृति एक 'कलात्मक कृति' है जो किसी भी माल या सेवाओं के संबंध में उपयोग की जाती है या उपयोग किए जाने में सक्षम है, तो आवेदन में प्रतिलिप्यधिकार अधिनियम, 1957 की धारा 45 की उप-धारा (i) के प्रावधान के अनुसार व्यापार चिह्न रजिस्ट्रार से प्रमाणन शामिल होना चाहिए। If the work is an 'Artistic work' which is used or capable of being used in relation to any goods or services, the application should include a certification from the Registrar of Trade Marks in terms of the provision to Sub-Section (i) of Section 45 of the Copyright Act, 1957.	N.A.

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Registrar of Copyrights

15. यदि कृति एक 'कलात्मक कृति' है, तो क्या यह डिजाइन अधिनियम 2000 के :   N.A.
अंतर्गत पंजीकृत है? यदि हां, तो विवरण दें।
If the work is an 'Artistic work', whether it is registered under the
Designs Act 2000, if yes give details.

16. यदि कृति एक 'कलात्मक कृति' है, जो डिजाइन अधिनियम 2000 के तहत :   N.A.
एक डिजाइन के रूप में पंजीकृत होने में सक्षम है, तो क्या यह औद्योगिक
प्रक्रिया के माध्यम से किसी वस्तु पर प्रयुक्त की गई है और यदि हाँ, तो इसे
कितनी बार पुनरुत्पादित किया गया है?
If the work is an 'Artistic work', capable of being registered as a
design under the Designs Act 2000,whether it has been applied to an
article though an industrial process and ,if yes ,the number of times
it is reproduced.

17. टिप्पणी, यदि कोई हो/Remarks, if any   :

डायरी संख्या/Diary Number: 5191/2024-CO/L

आवेदन की तिथि/Date of Application: 16/02/2024

प्राप्ति की तिथि/Date of Receipt: 16/02/2024

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दिनांक/Dated:10/09/2024

1.	पंजीकरण संख्या/Registration Number	:	SW-19415/2024
2.	आवेदक का नाम, पता तथा राष्ट्रीयता Name, address and nationality of the applicant	:	MOKHTAR AHMED SALLAM AL-AWADHI , HOUSE NO. 1-6-82/2 JAISINGPURA AURANGABAD-431001-431001 YEMENI RATNADEEP R. DESHMUKH , VAN-LAXMI, D-8, SHEVANTI TYPE, TIRUPATI PARK, N-4, CIDCO, AURANGABAD-431003-431003 INDIAN
3.	कृति के प्रतिलिप्यधिकार में आवेदक के हित की प्रकृति Nature of the applicant's interest in the copyright of the work	:	AUTHOR
4.	कृति का वर्ग और वर्णन Class and description of the work	:	COMPUTER SOFTWARE WORK THIS COMPUTER SOFTWARE DETECTS ADULTERATION IN HONEY AND CLASSIFIES THE HONEY BOTANICAL SOURCE USING ARTIFICIAL INTELLIGENCE TECHNIQUES AND HYPERSPECTRAL DATA.
5.	कृति का शीर्षक Title of the work	:	HONEY ADULTERATION DETECTION SYSTEM USING HYPERSPECTRAL TECHNIQUES
6.	कृति की भाषा Language of the work	:	PYTHON
7.	रचयिता का नाम, पता और राष्ट्रीयता तथा यदि रचयिता की मृत्यु हो गई है, तो मृत्यु की तिथि Name, address and nationality of the author and if the author is deceased, date of his decease	:	MOKHTAR AHMED SALLAM AL-AWADHI , HOUSE NO. 1-6-82/2 JAISINGPURA AURANGABAD-431001-431001 YEMENI RATNADEEP R. DESHMUKH , VAN-LAXMI, D-8, SHEVANTI TYPE, TIRUPATI PARK, N-4, CIDCO, AURANGABAD-431003-431003 INDIAN
8.	कृति प्रकाशित है या अप्रकाशित Whether the work is published or unpublished	:	UNPUBLISHED
9.	प्रथम प्रकाशन का वर्ष और देश तथा प्रकाशक का नाम, पता और राष्ट्रीयता Year and country of first publication and name, address and nationality of the publisher	:	N.A.
10.	बाद के प्रकाशनों के वर्ष और देश, यदि कोई हों, और प्रकाशकों के नाम, पते और राष्ट्रीयताएँ Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers	:	N.A.
11.	कृति में प्रतिलिप्यधिकार सहित विभिन्न अधिकारों के स्वामियों के नाम, पते और राष्ट्रीयताएं और समनुदेशन और अनुज्ञप्तियों के विवरण के साथ प्रत्येक के अधिकार का विस्तार, यदि कोई हो। Names, addresses and nationalities of the owners of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licences, if any	:	MOKHTAR AHMED SALLAM AL-AWADHI , HOUSE NO. 1-6-82/2 JAISINGPURA AURANGABAD-431001-431001 YEMENI RATNADEEP R. DESHMUKH , VAN-LAXMI, D-8, SHEVANTI TYPE, TIRUPATI PARK, N-4, CIDCO, AURANGABAD-431003-431003 INDIAN
12.	अन्य व्यक्तियों के नाम, पते और राष्ट्रीयताएं, यदि कोई हों, जो प्रतिलिप्यधिकार वाले अधिकारों को समनुदेशित करने या अनुज्ञप्ति देने के लिए अधिकृत हों Names, addresses and nationalities of other persons, if any, authorised to assign or licence of rights comprising the copyright	:	N.A.
13.	यदि कृति एक 'कलात्मक कृति' है, तो कृति पर अधिकार रखने वाले व्यक्ति का नाम, पता और राष्ट्रीयता सहित मूल कृति का स्थान। (एक वास्तुशिल्प कृति के मामले में कृति पूरी होने का वर्ष भी दिखाया जाना चाहिए) If the work is an 'Artistic work', the location of the original work, including name, address and nationality of the person in possession of the work. (In the case of an architectural work, the year of completion of the work should also be shown).	:	N.A.
14.	यदि कृति एक 'कलात्मक कृति' है जो किसी भी माल या सेवाओं के संबंध में उपयोग की जाती है या उपयोग किए जाने में सक्षम है, तो आवेदन में प्रतिलिप्यधिकार अधिनियम, 1957 की धारा 45 की उप-धारा (i) के प्रावधान के अनुसार व्यापार चिह्न रजिस्ट्रार से प्रमाणन शामिल होना चाहिए। If the work is an 'Artistic work' which is used or capable of being used in relation to any goods or services, the application should include a certification from the Registrar of Trade Marks in terms of the provision to Sub-Section (i) of Section 45 of the Copyright Act, 1957.	:	N.A.
15.	यदि कृति एक 'कलात्मक कृति' है, तो क्या यह डिजाइन अधिनियम 2000 के अंतर्गत पंजीकृत है? यदि हां, तो विवरण दें। If the work is an 'Artistic work', whether it is registered under the Designs Act 2000, if yes give details.	:	N.A.
16.	यदि कृति एक 'कलात्मक कृति' है, जो डिजाइन अधिनियम 2000 के तहत एक डिजाइन के रूप में पंजीकृत होने में सक्षम है, तो क्या यह औद्योगिक	:	N.A.

प्रतिलिप्यधिकार कार्यालय, भारत सरकार | Copyright Office, Government Of India

दिनांक/Dated:09/03/2024

1.	पंजीकरण संख्या/Registration Number	:	SW-18399/2024
2.	आवेदक का नाम, पता तथा राष्ट्रीयता Name, address and nationality of the applicant	:	RASHMI KUMARIA NITWANE , PLOT NO.16,NEAR SWAMI SAMARTH MANDIR , GAJANAN COLONY, GARKHEDHA PARISAR -431005 INDIAN DR. VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431001 INDIAN DR. RATNADEEP R DESHMUKH , CIDCO, AURANGABAD-431007 INDIAN
3.	कृति के प्रतिलिप्यधिकार में आवेदक के हित की प्रकृति Nature of the applicant's interest in the copyright of the work	:	OWNER
4.	कृति का वर्ग और वर्णन Class and description of the work	:	COMPUTER SOFTWARE WORK GUI APPLICATION DEVELOPED IN PYTHON AND MYSOL FOR REGIONAL AGRICULTURAL DROUGHT FORECASTING AND PLANNING THE CROP CYCLE. THE SOFTWARE CONSIST OF THE NEURAL NETWORK MODELS & RECURRENT NEURAL NETWORKS.
5.	कृति का शीर्षक Title of the work	:	ADVANCE AGRICULTURAL DROUGHT INDEX FOR REGIONAL DROUGHT MITIGATION AND PLANNING SYSTEMS: A MACHINE LEARNING TOOL
6.	कृति की भाषा Language of the work	:	PYTHON AND MYSQL
7.	रचयिता का नाम, पता और राष्ट्रीयता तथा यदि रचयिता की मृत्यु हो गई है, तो मृत्यु की तिथि Name, address and nationality of the author and if the author is deceased, date of his decease	:	RASHMI KUMARIA NITWANE , PLOT NO.16,NEAR SWAMI SAMARTH MANDIR , GAJANAN COLONY, GARKHEDHA PARISAR -431005 INDIAN DR. VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431001 INDIAN DR. RATNADEEP R DESHMUKH , CIDCO, AURANGABAD-431007 INDIAN
8.	कृति प्रकाशित है या अप्रकाशित Whether the work is published or unpublished	:	UNPUBLISHED
9.	प्रथम प्रकाशन का वर्ष और देश तथा प्रकाशक का नाम, पता और राष्ट्रीयता Year and country of first publication and name, address and nationality of the publisher	:	N.A.
10.	बाद के प्रकाशनों के वर्ष और देश, यदि कोई हों, और प्रकाशकों के नाम, पते और राष्ट्रीयताएँ Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers	:	N.A.
11.	कृति में प्रतिलिप्यधिकार सहित विभिन्न अधिकारों के स्वामियों के नाम, पते और राष्ट्रीयताएं और समनुदेशन और अनुज्ञप्तियों के विवरण के साथ प्रत्येक के अधिकार का विस्तार, यदि कोई हो। Names, addresses and nationalities of the owners of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licences, if any	:	RASHMI KUMARIA NITWANE , PLOT NO.16,NEAR SWAMI SAMARTH MANDIR , GAJANAN COLONY, GARKHEDHA PARISAR -431005 INDIAN DR. VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431001 INDIAN DR. RATNADEEP R DESHMUKH , CIDCO, AURANGABAD-431007 INDIAN
12.	अन्य व्यक्तियों के नाम, पते और राष्ट्रीयताएं, यदि कोई हों, जो प्रतिलिप्यधिकार वाले अधिकारों को समनुदेशित करने या अनुज्ञप्ति देने के लिए अधिकृत हों Names, addresses and nationalities of other persons, if any, authorised to assign or licence of rights comprising the copyright	:	N.A.
13.	यदि कृति एक 'कलात्मक कृति' है, तो कृति पर अधिकार रखने वाले व्यक्ति का नाम, पता और राष्ट्रीयता सहित मूल कृति का स्थान। (एक वास्तुशिल्प कृति	:	N.A.

एक डिजाइन के रूप में पंजीकृत होने में सक्षम है, तो क्या यह औद्योगिक प्रक्रिया के माध्यम से किसी वस्तु पर प्रयुक्त की गई है और यदि हाँ, तो इसे कितनी बार पुनरुत्पादित किया गया है?

If the work is an 'Artistic work', capable of being registered as a design under the Designs Act 2000.whether it has been applied to an article though an industrial process and ,if yes ,the number of times it is reproduced.

17. टिप्पणी, यदि कोई हो/Remarks, if any

: THE SOFTWARE GUI IS A MACHINE LEARNING TOOL WITH NEURAL NETWORKS FOR THE DROUGHT INDICES SPI,SPEI , RAI AND ADI(DEVELOPED THROUGH RESEARCH WORK) . IT PREDICTS THE CONDITIONS FOR THE NEXT CROP CYCLE.

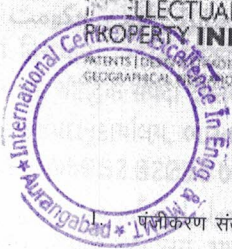|	
डायरी संख्या/Diary Number:	30985/2023-CO/SW
आवेदन की तिथि/Date of Application:	23/11/2023
प्राप्ति की तिथि/Date of Receipt:	23/11/2023

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INTELLECTUAL
PROPERTY **INDIA**
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

सत्यमेव जयते

तिथि/Dated:17/07/2023

1.	पंजीकरण संख्या/Registration Number	:	SW-16902/2023
2.	आवेदक का नाम, पता तथा राष्ट्रीयता Name, address and nationality of the applicant	:	RASHMI KUMARIA NITWANE , GAJANAN COLONY , GARKHEDHA PARISAR, AURANGABAD -431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA,AURANGABAD, MAHARASHTRA-431002 INDIAN DR. RATNADEEP DESHMUKH , CIDCO , AURANGABAD, MAHARASHTRA-431007 INDIAN
3.	कार्य के कॉपीराइट में आवेदक की रुचि की प्रकृति Nature of the applicant's interest in the copyright of the work	:	AUTHOR
4.	कार्य का वर्ग और विवरण Class and description of the work	:	COMPUTER SOFTWARE WORK THE SOFTWARE PROGRAM IS FOR THE COMPARITIVE ANALYSIS OF THE NEWLY DEVELOPED AGRICULTURAL DROUGHT INDEX AND ITS COMPARITIVE ANALYSIS WITH THE OTHER PRECIPITATION BASED DROUGHT INDICES.
5.	कार्य का शीर्षक Title of the work	:	REGRESSION MODELLING OF ADVANCE AGRICULTURAL DROUGHT INDEX AND IT'S COMPARITIVE ANALYSIS WITH THE PRECIPITATION BASED DROUGHT INDICES SPI AND SPEI
6.	कार्य की भाषा Language of the work	:	R SOFTWARE
7.	लेखक का नाम, पता और राष्ट्रीयता तथा यदि लेखक की मृत्यु हो गई है, तो मृत्यु की तिथि Name, address and nationality of the author and if the author is deceased, date of his decease	:	RASHMI KUMARIA NITWANE , GAJANAN COLONY , GARKHEDHA PARISAR, AURANGABAD -431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA,AURANGABAD, MAHARASHTRA-431002 INDIAN DR. RATNADEEP DESHMUKH , CIDCO , AURANGABAD, MAHARASHTRA-431007 INDIAN
8.	कार्य प्रकाशित है या अप्रकाशित Whether the work is published or unpublished	:	UNPUBLISHED
9.	प्रथम प्रकाशन का वर्ष और देश तथा प्रकाशक का नाम, पता और राष्ट्रीयता Year and country of first publication and name, address and nationality of the publisher	:	N.A.
10.	बाद के प्रकाशनों के वर्ष और देश, यदि कोई हों, और प्रकाशकों के नाम, पते और राष्ट्रीयताएँ Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers	:	N.A.
11.	कार्य में कॉपीराइट सहित विभिन्न अधिकारों के मालिकों के नाम, पते और राष्ट्रीयताएं और असाइनमेंट और लाइसेंस के विवरण के साथ प्रत्येक के अधिकार की सीमा, यदि कोई हो Names, addresses and nationalities of the owners of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licences, if any	:	RASHMI KUMARIA NITWANE , GAJANAN COLONY , GARKHEDHA PARISAR, AURANGABAD -431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA,AURANGABAD, MAHARASHTRA-431002 INDIAN DR. RATNADEEP DESHMUKH , CIDCO , AURANGABAD, MAHARASHTRA-431007 INDIAN
12.	अन्य व्यक्तियों के नाम, पते और राष्ट्रीयताएं, यदि कोई हों, जो कॉपीराइट वाले अधिकारों को सौंपने या लाइसेंस देने के लिए अधिकृत हों Names, addresses and nationalities of other persons, if any, authorised to assign or licence of rights comprising the copyright	:	RASHMI KUMARIA NITWANE , GAJANAN COLONY , GARKHEDHA PARISAR, AURANGABAD -431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA,AURANGABAD, MAHARASHTRA-431002 INDIAN DR. RATNADEEP DESHMUKH , CIDCO , AURANGABAD, MAHARASHTRA-431007 INDIAN

एक डिजाइन के रूप में पंजीकृत होने में सक्षम है, तो क्या यह औद्योगिक प्रक्रिया के माध्यम से किसी वस्तु पर प्रयोग में लाया गया है और यदि हाँ, तो इसे कितनी बार पुनः प्रस्तुत किया गया है?

If the work is an 'Artistic work', capable of being registered as a design under the Designs Act 2000.whether it has been applied to an article though an industrial process and ,if yes ,the number of times it is reproduced.

17. टिप्पणी, यदि कोई हो/Remarks, if any   :   THE GIVEN SOFTWARE PROGRAM IS DEVELOPED IN R PROGRAMMING TO DO COMPARITIVE STUDY OF CURRENTLY EXISTING AGRICULTURAL DROUGHT INDICES AND THE NEWLY DEVELOPED ADVANCE AGRICULTURAL DROUGHT INDEX (AADI)
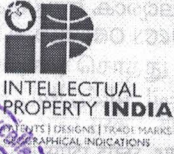
डायरी संख्या/Diary Number: 14855/2023-CO/SW

आवेदन की तिथि/Date of Application: 05/06/2023

प्राप्ति की तिथि/Date of Receipt: 05/06/2023

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तिथि/Dated:19/07/2023

पंजीकरण संख्या/Registration Number : **SW-16918/2023**

2.	आवेदक का नाम, पता तथा राष्ट्रीयता Name, address and nationality of the applicant	:	RASHMI KUMARIA NITWANE , PLOT NO.16, GAJANAN COLONY,NEAR SWAMI SAMARTH MANDIR, GARKHEDHA PARISAR,AURANGABAD-431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431002 INDIAN DR.RATNADEEP DESHMUKH , N-4 , CIDCO ,AURANGABAD-431002 INDIAN
3.	कार्य के कॉपीराइट में आवेदक की रुचि की प्रकृति Nature of the applicant's interest in the copyright of the work	:	AUTHOR
4.	कार्य का वर्ग और विवरण Class and description of the work	:	COMPUTER SOFTWARE WORK THE WAVELET ANALYSIS OF THE METEOROLOGICAL INDEX SPI AND MACHINE LEARNING AGRICULTURAL DROUGHT INDEX IS CONDUCTED FOR THE DEVELOPMENT OF AGRICULTURAL DROUGHT FORECASTING MECHANISM AT REGIONAL LEVEL.
5.	कार्य का शीर्षक Title of the work	:	WAVELET ANALYSIS OF METEOROLOGICAL INDEX SPI AND MACHINE LEARNING AGRICULTURAL DROUGHT INDEX (MLADI)
6.	कार्य की भाषा Language of the work	:	R PROGRAMMING
7.	लेखक का नाम, पता और राष्ट्रीयता तथा यदि लेखक की मृत्यु हो गई है, तो मृत्यु की तिथि Name, address and nationality of the author and if the author is deceased, date of his decease	:	RASHMI KUMARIA NITWANE , PLOT NO.16, GAJANAN COLONY,NEAR SWAMI SAMARTH MANDIR, GARKHEDHA PARISAR,AURANGABAD-431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431002 INDIAN DR.RATNADEEP DESHMUKH , N-4 , CIDCO ,AURANGABAD-431002 INDIAN
8.	कार्य प्रकाशित है या अप्रकाशित Whether the work is published or unpublished	:	UNPUBLISHED
9.	प्रथम प्रकाशन का वर्ष और देश तथा प्रकाशक का नाम, पता और राष्ट्रीयता Year and country of first publication and name, address and nationality of the publisher	:	N.A.
10.	बाद के प्रकाशनों के वर्ष और देश, यदि कोई हों, और प्रकाशकों के नाम, पते और राष्ट्रीयताएँ Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers	:	N.A.
11.	कार्य में कॉपीराइट सहित विभिन्न अधिकारों के मालिकों के नाम, पते और राष्ट्रीयताएं और असाइनमेंट और लाइसेंस के विवरण के साथ प्रत्येक के अधिकार की सीमा, यदि कोई हो Names, addresses and nationalities of the owners of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licences, if any	:	RASHMI KUMARIA NITWANE , PLOT NO.16, GAJANAN COLONY,NEAR SWAMI SAMARTH MANDIR, GARKHEDHA PARISAR,AURANGABAD-431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431002 INDIAN DR.RATNADEEP DESHMUKH , N-4 , CIDCO ,AURANGABAD-431002 INDIAN
12.	अन्य व्यक्तियों के नाम, पते और राष्ट्रीयताएं, यदि कोई हों, जो कॉपीराइट वाले अधिकारों को सौंपने या लाइसेंस देने के लिए अधिकृत हों Names, addresses and nationalities of other persons, if any, authorised to assign or licence of rights comprising the copyright	:	RASHMI KUMARIA NITWANE , PLOT NO.16, GAJANAN COLONY,NEAR SWAMI SAMARTH MANDIR, GARKHEDHA PARISAR,AURANGABAD-431007 INDIAN DR.VAISHALI D BHAGILE , BEGUMPURA , AURANGABAD-431002 INDIAN

प्रक्रिया के माध्यम से किसी वस्तु पर प्रयोग में लाया गया है और यदि हाँ, तो
इसे कितनी बार पुनः प्रस्तुत किया गया है?

If the work is an 'Artistic work', capable of being registered as a
design under the Designs Act 2000.whether it has been applied to an
article though an industrial process and ,if yes ,the number of times
it is reproduced.

17. टिप्पणी, यदि कोई हो/Remarks, if any : THE COMPARITIVE WAVELET ANALYSIS OF
METEOROLOGICAL INDEX WITH NEWLY DEVELOPED
MACHINE LEARNING AGRICULTURAL DROUGHT INDEX
IS DONE FOR THE DEVELOPMENT OF ROBUST
ARGICULTURAL DROUGHT PREDICTION SYSTEM.

डायरी संख्या/Diary Number: 15167/2023-CO/SW

आवेदन की तिथि/Date of Application: 07/06/2023

प्राप्ति की तिथि/Date of Receipt: 07/06/2023

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क्रम सं/ Serial No. : 169622

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सत्यमेव जयते

पेटेंट कार्यालय, भारत सरकार   The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No.	:	411620-001
तारीख / Date	:	26/03/2024
पारस्परिकता तारीख / Reciprocity Date*	:	
देश / Country	:	

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *ANIMAL IDENTIFYING DEVICE FOR AGRICULTURAL FARM* से संबंधित है, का पंजीकरण, श्रेणी 15-03 में 1.Ms. Rashmi Kumaria Nitwane 2. Dr. Vaishali Bhagile 3.Dr. Ratnadeep Deshmukh के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 15-03 in respect of the application of such design to *ANIMAL IDENTIFYING DEVICE FOR AGRICULTURAL FARM* in the name of 1.Ms. Rashmi Kumaria Nitwane 2. Dr. Vaishali Bhagile 3.Dr. Ratnadeep Deshmukh.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।

In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

जारी करन की तिथि:
Date of Is…   :   16/05/2024

महानियंत्रक पेटेंट, डिजाइन और व्यापार चिह्न
Controller General of Patents, Designs and Trade Marks

DPMAdirekt - elektronische Dokumentenannahme

Notification of receipt of a utility model application:

Document Reference No. (DRN): 2024120609274100DE

Registration received on:

December 6, 2024

Digital signature

signature level: advanced

valid from: valid 28.11.2022 01:00:00

until: 29.11.2027 00:59:59

Serial number: 18195984972387930518499884007315914216

Publisher: O=European Patent Office,
CN=European Patent Office CA G2

Data on the current case:

official file number: 20 2024 107 074.7

Barcode:

20 2024 107 074.7

Process type: Utility model application

Title of the invention: A system for calculating the surface water area

Your reference: G24752DE

Applicant: Akshay Kaveri Venketrao Kshirsagar Plot No.41, Row
House No.2, Gut No. 161, Alok Nagar, Beed By Pass 413508 Chhatrapati Sambhajinagar,
Maharashtra IN

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The following files are German Patent and Trademark Office and were checked for correct syntax, completeness the login data and permissible graphic formats successfully validated	Specification.pdf (G24752DE Registration documents 05122024.pdf) DIRECTDEBIT.XML DE-UM-REQUEST.XML OTHER_01.pdf (G24752DE combined declarations 05122024.pdf)
hash value of the request	F02EA3CF30E57001C6717C9C50BEFEED000EBA72
The following were forms automatically selected from the submitted files generated	DE-UM-REQUEST.PDF DIRECTDEBIT.pdf

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Patent- und Markenamt

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The Controller of Patents

The Patent Office

Mumbai

KIND ATTN: Dr. Santanu Acharya

CONTROLLER OF PATENTS

Dear sir,

Re: Patent Application No. **202321006863**   Filed on: **02-02-2023**

Applicant: **Rashmi Nitwane**

Title: **MACHINE LEARNING SPECTRAL INDEX FOR MULTISPECTRAL SATELLITE SENSORS IN AGRICULTURAL DROUGHT ANALYSIS AND PREDICTION**

Letter No: **Ref. No/Application No/. 202321006863**   Dated: **09-10-2023**

This is in reference to the examination report dated **09-10-2023** against Indian Patent Application.no. **202321006863** referred hereafter as present application/invention.

Applicant Name: Rashmi Nitwane
Application No. 202321006863

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AMENDMENTS MADE IN SPECIFICATION

In view of the objections related to Specification put forth in the examination report, the structure of the complete specification has been amended. The complete specification has been amended to incorporate line numbers as prescribed. Extraneous spaces and irrelevant matters has been deleted. Marked-up and clean copy specification is enclosed to this response.

Applicant Name: Rashmi Nitwane
Application No. 202321006863

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AMENDMENTS MADE IN CLAIMS

1.   In view of the objections, put forth in the examination report, however, without admitting to the propriety of the objection/objections, the Applicant respectfully submits that the pending claims (on file) have been suitably amended to make them clear, concise, and also submits the revised claims in the prescribed manner which are now in condition of allowance. Revisions in claims are as under:

   i)   Independent claim 1 on file is amended to make the claim clear, concise and definitive.

   Support for the amendments can be traced back to pages 2-4, figure 1 and 2 of the specification.

   ii)   Present claim 2 has been amended to make the claim clear, concise, and definitive.

2.   It is submitted that all the amendments to the claims are directly and unambiguously derivable from the application as originally filed, and therefore meet the requirements of The Patents Act, 1970.

3.   In order to facilitate review of the amendments a compared version of the amended set of claims 1-2 having the amendments compared to the original version of claims 1-4 are enclosed along with this response. Marked up as well as clean copies of the amended claims are enclosed to this response.

4.   All amendments are made without prejudice or disclaimer of subject matter that has been deleted at this stage. The Applicant reserves the right to reintroduce any deleted matter in this application or in a subsequent divisional application.

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Application No. 202321006863

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RESPONSE TO OBJECTIONS

PART II- PARAGRAPH- 1- INVENTIVE STEP

With regards to objection pertaining to Inventive Step on claim set in view of:

D1: CN115166874A Meteorological drought index SPI construction method based on machine learning

Applicant respectfully disagrees that the invention lacks Inventive Step, and is not allowable u/s 2(1) (j) of the Patent Act, 1970. The Applicant respectfully traverses these grounds of objections as teachings of the referred patent documents are entirely different from this invention. Presented below are arguments in support of Inventive Step of the present invention.

However, in order to expedite prosecution of this case and without admitting to the propriety of the objections, the Applicant has amended independent claim on file, to make the claims clear, concise and clarify the scope of claimed invention. Applicant requests the Controller to kindly consider the amended set of claims presented in the instant response, wherein earlier independent claim has been amended to make it clear and concise. Presented below are arguments in support of Inventive Step of the present invention.

AMENDED INDEPENDENT CLAIM 1

The independent claim on file after the amendments now read as follows:

1. A spectral agricultural drought index for multi-spectral satellite sensors using a processor, characterized in that:

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a plurality of multi-spectral satellite sensors comprising of spectral information stored in bands of spectroradiometer; and

a data collector module configured with the plurality of multi-spectral satellite sensors, wherein the data collector module collects and classifies region of growth and time series of crop life cycle,

wherein the processor after receiving data from the data collector module using machine learning spectral index techniques analyse agricultural drought condition and using a predictive system determines agricultural drought cycle for next years.

INVENTIVE STEP:

Applicant would like to technically and logically submit the below understanding and differentiating features of the present invention when compared with D1:

With regard to the cited document D1,

D1 discloses *"a meteorological drought index SPI construction method based on machine learning, which comprises the following steps: acquiring rainfall product data and rainfall data of a meteorological observation station; respectively calculating the drought index SPI of different scales by using precipitation product data and station observation precipitation; extracting elevation and gradient of topographic indexes, longitude and latitude of geographic indexes; performing data fusion on the data, constructing a model input data set based on the fused data, and dividing the data into a test set and a training set; constructing a model by utilizing a machine learning model GPR based on a training set, and optimizing parameters of the model by utilizing Bayesian optimization; testing the accuracy of the model based on the test set; and generating a long-time sequence high-resolution high-precision multi-scale drought index SPI spatial data set and spatial uncertainty by using*

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the constructed monthly model."

Based on the above and whole document of D1, the Applicant respectfully submits that D1 elaborates upon <u>a meteorological drought index SPI construction method based on machine learning</u>.D1 comprising of <u>SPI Index, machine learning,</u>

D1 mentions acquiring rainfall product data and measured rainfall data of a meteorological site. Calculating to obtain a drought index standardized precipitation index of a rainfall product and a drought index standardized precipitation index of actually measured rainfall data by using rainfall product data. Then a drought index SPI calculated by the actually measured rainfall, the terrain data and the geographic data to obtain a fused data set, and dividing the fused data set into a test set and a training set; step five: respectively constructing a model for the drought index SPI of each month by using a machine learning model based on a training set, and optimizing the hyper-parameters of the model by using a Bayesian algorithm, using RMSE, MAE and R based on test set 2 And the accuracy of the historical drought event verification model.

In contrast, the present invention is a spectral agricultural drought index for multi-spectral satellite sensors using a processor comprising of a plurality of multi-spectral satellite sensors comprising of spectral information stored in bands of spectroradiometer and a data collector module configured with the plurality of multi-spectral satellite sensors, wherein the data collector module collects and classifies region of growth and time series of crop life cycle.

D1 mentions a meteorological drought index SPI construction method based on machine learning. The present invention is a spectral agricultural drought index for multi-spectral satellite sensors using a processor. D1 nowhere multi-spectral satellite sensors are used for drought index SPI calculation. D1 mentions acquiring rainfall product data and measured rainfall data of a meteorological site, calculating to obtain a drought index standardized

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precipitation index of a rainfall product and a drought index standardized precipitation index of actually measured rainfall data by using rainfall product data, however the present invention mention a plurality of multi-spectral satellite sensors comprising of spectral information stored in bands of spectroradiometer. The present nowhere mentions rainfall product data are used for drought analysis and prediction. The present invention mention a data collector module configured with the plurality of multi-spectral satellite sensors, wherein the data collector module collects and classifies region of growth and time series of crop life cycle, D1 nowhere mentions a data collection module which is configured with the satellite sensors for analysis and classifies crops. D1 mention a drought index SPI calculated by the actually measured rainfall, the terrain data and the geographic data to obtain a fused data set, and dividing the fused data set into a test set and a training set; step five: respectively constructing a model for the drought index SPI of each month by using a machine learning model based on a training set, and optimizing the hyper-parameters of the model by using a Bayesian algorithm, using RMSE, MAE and R based on test set ^{2} And the accuracy of the historical drought event verification model. The present invention nowhere mention using Bayesian algorithm, using RMSE, MAE and R based on test set ^{2} And the accuracy for drought analysis. The present invention is concerned with the processor after receiving data from the data collector module using machine learning spectral index techniques analyse agricultural drought condition and using a predictive system determines agricultural drought cycle for next years.

D1 explicitly **fails** to disclose, **the processor after receiving data from the data collector module using machine learning spectral index techniques analyse agricultural drought condition and using a predictive system determines agricultural drought cycle for next years.**

As a result, the scope of the present invention is completely different as compared to that of D1.

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Based on the above arguments and differences, the Applicant submits that:

a)   D1 explicitly fails to disclose at least the features mentioned in the above paragraphs.

b)   In addition, the technical problem being solved by the present invention is technically and logically different from that of the technical problem being solved by the cited prior art reference D1.

c)   Further, the technical effect solution provided by the present invention is technically and logically different from the technical problem being provided by the cited prior art document D1 (without any teaching, suggestion and/or motivation).

Further, the Applicant has amended the claim set on file, to make the claims clear, concise and clarify the scope of claimed invention. Applicant requests the Controller to kindly consider the amended set of claims presented in the instant response, wherein earlier claims have been amended to make it clear and concise. Hence unless the reference, for example the cited reference D1, explicitly and individually discloses the above recited inventive steps/feature/component of amended independent claim 1, dependent claim 2 individually and/or in combination, and the manner in which they are constructed/arranged/structured/functions /operates, the objection of INVENTIVE STEP cannot be applicable.

The Applicant respectfully asserts that D1 fails to teach each and every element of amended independent claim 1 consequently fails to anticipate the amended claim set. Also, by virtue of its dependency on the inventive independent claim 1, the respective dependent claim 2 shall also be considered Inventive.

Consequently, the subject matter of the amended claim set, involves inventive step over D1. Hence, a favorable consideration is therefore requested in view of this submission and revision, and therefore requests the learned Controller to withdraw the present objection.

Accordingly, the Applicant therefore requests the Learned Controller to withdraw the present objection.

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Application No. 202321006863

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PARAGRAPH 2- NON PATENTABILITY- U/S- 3(K)

With regards to objection that, *"a device for "MACHINE LEARNING SPECTRAL INDEX FOR MULTISPECTRAL SATELLITE SENSORS IN AGRICULTURAL DROUGHT ANALYSIS AND PREDICTION" prima facie falls within scope of clause (k) of section (3) of the Patents Act, 1970 (as amended). AI/ML algorithms are mathematical methods are per se of an abstract mathematical nature and do not, on their own, necessarily imply the use of technical means. AI and machine learning can potentially contribute towards an inventive step only when the AI/ML serves a technical purpose. The claimed AI/ML does not serve any identifiable technical (financial, business, economic or actuarial) purpose and is therefore non-technical. Furthermore, the fact that the method is defined as being computer-implemented would imply that the method is performed e.g. by software. However, software which performs a purely non-technical method using an abstract mathematical method cannot be considered as producing any further technical effect. "*

The Applicant requests the Controller to consider the amended set of claims 1-2, where the original claims on file have been amended for clarity. In addition, the Applicant submits that the present invention does not fall under section 3(k) as the present invention overcomes various technical problems, has technical effect, involves and utilizes physical components i.e. a plurality of multi-spectral satellite sensors, a data collector module and a processor and therefore, relies on the operation of the hardware components to perform various physical activities. The Claim 1 relates to "a spectral agricultural drought index for multi-spectral satellite sensors using a processor", wherein the components of the system are "a plurality of multi-spectral satellite sensors, a data collector module and a processor" which as hardware is essential structural component. The amended independent claim 1 do not relate to either "computer programme per se" or "algorithm" as objected by the Ld. Controller. The Applicant further states that what is being claimed by the claim in question is "a spectral agricultural drought index for multi-spectral satellite sensors using a processor by using a plurality of multi-spectral satellite sensors, a data collector module and a processor.

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The system as claimed solves technical problem by technical means. The present invention establishes technical effect for improving a spectral agricultural drought index for multi-spectral satellite sensors using a processor. This technical effect is achieved beyond mere algorithms or mere computer program, are carried out by a plurality of multi-spectral satellite sensors, a data collector module and a processor and which allows different sets of tasks to be performed for a spectral agricultural drought index for multi-spectral satellite sensors using a processor. Based on the above, the Applicant asserts that the involvement of hardware components and the operation of the hardware component to enable the above-mentioned physical activities already provide a sufficient hardware or structural limitations to the present invention.

Accordingly, the Applicant therefore requests the Learned Controller to withdraw the present objection.

PARAGRAPH 3- SUFFICIENCY OF DISCLOSURE:

With regards to objection that, *"1. Without prejudice to above objection, The physical constructional features shall be numbered in the claims and the inventive constructional features shall be incorporated as a characterized portion of the independent claims, in order to define the alleged invention clearly and sufficiently. The claims should be redrafted to make them sufficiently definitive and Inventive features should be brought out clearly under characterized clause and reference numerals should be supplemented in brackets to enhance the intelligibility of Claims and clearly define the scope of the invention, in accordance with section 10(4)(c) of The Patents Act 1970 as amended by the Patents (Amendment) Act 2005. The complete specification should disclose the best method of performing the invention. The steps involved in carrying out the invention are not clearly disclosed. The claims shall be amended to bring more clarity to the scope of the claimed invention.*

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2. Drafting of claims is not proper because of which the nature & scope of the alleged invention cannot be clearly ascertained. The statement of claims should therefore be revised & all essential features of the invention should be brought in claim1 while subsidiary features of the invention may be claimed in dependent claims. 3. Distinguishing feature with reference to Prior specification D1 is necessary."

The applicant requests the controller to consider amended independent claim 1, dependent claim 2 here the original claims 1-4 has been amended to incorporate all the essential structural and technical features of the invention in claim 1 to make the claim clear, and concise. The applicant humbly submits that the independent claim 1 incorporates "characterized part" to distinguish the inventive steps of the present invention from the prior art "D1". The amended claims sufficiently disclosing the invention thus there is no need of reference numbers. The scope of the invention is clear from the amended claims. Applicant further submits that Pages 2-4 of specification on file completely discloses the invention and its operation or use and the method by which it is to be performed, and best method of use. The Applicant respectfully submits that it would be sufficient for a person to understand the invention after going through Pages 2-4 of specification on file.

However, support for each element and features of amended claims 1-2 are provided in tabular form below.

Elements/Features of Claims	Support from Specification
A special agricultural drought index for multi-spectral satellite sensors using a processor, characterized in that: a plurality of multi-spectral satellite sensors comprising of spectral information stored in bands of spectroradiometer; and	Pages 2-4

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a data collector module configured with the plurality of multi-spectral satellite sensors, wherein the data collector module collects and classifies region of growth and time series of crop life cycle, wherein the processor after receiving data from the data collector module using machine learning spectral index techniques analyse agricultural drought condition and using a predictive system determines agricultural drought cycle for next years. **(Claim 1)**	
the predictive system is configured with the processor analyse vegetation and soil parameters. **(Claim 2)**	Page 3

PARAGRAPH 4-SCOPE:

With regards to objection that, *"According to the Patent Act 1970 (amended in 2016), only the subject matter described in claims is examined for novelty and inventive step. Therefore, claims determine the initial scope of the prior art search. In the present patent application, the subject matter for which protection is sought is not clear."*

The applicant requests the controller to consider amended independent claim 1, dependent claim 2 here the original claims 1-4 has been amended to incorporate all the essential struc-

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tur=... d technical features of the invention in claim 1 to make the claim clear, and concise. The scope of the invention is clear from the amended claims.

PARAGRAPH 5- CLARITY AND CONCISENESS:

With regards to objection that, *"1. Reference numerals should be put in claims to enhance clarity. 2. The principal claim should sufficiently define, characterize, and clearly bring out the inventive step. 3. The drafting of claims is not proper and does not seem to be succinct U/S 10(5) of The Patent Act Hence independent claims should be cast in the two-part form where appropriate, with those features known in combination from the prior art being placed in the preamble and the remaining features being included in the characterizing part. 4. The subject matter for which protection is sought is not clearly defined. Hence the claim is objected to u/s 10(4)(c) of the Patent Act 1970 (as amended in 2016). The statement of claims should, therefore, be revised and all essential features of the invention should be brought in independent claims while subsidiary features of the invention may be claimed in dependent claims."*

The applicant requests the controller to consider amended independent claim 1, dependent claim 2 here the original claims 1-4 has been amended to incorporate all the essential structural and technical features of the invention in claim 1 to make the claim clear, and concise. The applicant humbly submits that the independent claim 1 incorporates "characterized part" to distinguish the inventive steps of the present invention from the prior art "D1". The amended claims sufficiently disclosing the invention thus there is no need of reference numbers.

PARAGRAPH 6- OTHERS REQUIREMENTS:

With regards to objection that, *"(I) 1. The method steps should be defined clearly incorporating by what physical constructional features the said steps are being enabled in the*

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method in order to make the method function/ work/ operate. The physical constructional features shall be numbered. The inventive method steps shall be characterized in the independent/principal claim. Without which the method claims do not fit into the definition of a method claim. The method steps given in the claims are mere statements and are of algorithm/flowchart. Hence method claims as such falls U/S 2(1) (j), 10(4) & 3(k) of The Indian Patent Act 1970.

2. The physical constructional features shall be numbered in the apparatus/system/device claims and the inventive constructional feature shall be incorporated as characterized portion of the independent claims, in order to define the alleged invention clearly and sufficiently. Without which the system claims do not fit into the definition of system claims. The word "means" mentioned in claims should be defined properly either in description or/and in claims. The various means mentioned are software. As such the system claims fall U/S 2(1) (j), 10(4) & 3(k) of The Indian Patent Act 1970.

3. System claims are not allowable. The subject matter of these claims is a mere repetition with a mere preamble change. The word MEANS has not been defined. Moreover, there is no inventiveness constructively and hence not allowable u/s 2 (1)(j) of the Patents Act 1970.

4. The complete specification shall fully and particularly describe the invention and its operation or use and the method by which it is to be performed and disclose the best method of performing the invention wrt the illustrations provided. A detailed description of all illustrations shall be provided which in turn provides clear support for the claims.

5. Claims do not sufficiently define the invention. The inventive features should be incorporated in the principal claim and the corresponding subsidiary claims shall be made dependent upon the principal claim so as to make the invention sufficiently definitive.

6. Distinguishing features as compared with prior art should be provided. A distinguishing feature with reference to the prior specification should be provided. The wording "further" shall be deleted in all the claims wherever applicable.

7. Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are rep-

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resentative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as to within the prior art or disclosed by the Examiner. "-**Noted and complied with.**

The applicant requests the controller to consider amended independent claim 1, dependent claim 2 here the original claims 1-4 has been amended to incorporate all the essential structural and technical features of the invention in claim 1 to make the claim clear, and concise. The amended independent claim 1 is a system claim. The applicant humbly submits that the independent claim 1 incorporates "characterized part" to distinguish inventive steps of the present invention from the prior art "D1". Applicant further submits that Pages 2-4 of specification on file completely discloses the invention and its operation or use and the method by which it is to be performed, and best method of use. The Applicant respectfully submits that it would be sufficient for a person to understand the invention after going through Pages 2-4 of specification on file. However, support for each element and features of amended claims 1-2 are provided in tabular form above mentioned. The present invention is not mere algorithm or flow chart. The Claim 1 relates to "a spectral agricultural drought index for multi-spectral satellite sensors using a processor", wherein the components of the system are "a plurality of multi-spectral satellite sensors, a data collector module and a processor" which as hardware is essential structural component. There is no terms such as "means" and "further" in the claims or specification.

PART III-FORMAL REQUIRMENTS

Statement & Under Taking (Form 3 Details)

With regards to objection that, "1) Details regarding application for patents which may be filed outside India from time to time for the same or substantially the same invention should

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be furnished within six months from the date of filing of the said application under clause (b) of subsection (1) of section 8 and rule 12(1) of the Patents Act, 1970(as amended). 2) Details regarding the search and/or examination report including claims of the application allowed, as referred to in Rule 12(3) of the Patents Rules, 2003(as amended), in respect of same or substantially the same invention filed in all the major Patent offices along with appropriate translation where applicable, should be submitted within a period of six months from the date of receipt of this communication as provided under section 8(2) of the Patents Act, 15 (as amended)."

The applicant humbly submits that there is no patent application filed outside India, the applicant hereby submitting form 3 with this response.

Format of Specification (rule 13)

With regards to objection that, "1. Specification should be filed as per the provisions of Rule the Patents Rule, 2003 (as amended). 2. The disclosure should contain appropriate subtitles. 3. The complete specification is not in accordance with section 10 and rule 13 of the Patent Act 1970 (as amended in 2016). 4. Extraneous matter and blank spaces should be deleted from Complete Specification. Pages of the complete specification should be renumbered by incorporating Form 2 as page 1 of the Complete Specification, as per rule 13(1),(5) of The Patents Rule, 2003 (as amended). The fee should be paid for extra pages. 5. The complete specification should be serially numbered at the bottom center of each page starting from the front page; in the description and claims every fifth line should be numbered: see Rule 9(1). 6. The complete specification is not prepared in the prescribed/formal manner; refer chapters 05.03.03 to 05.03.12 of the 'MANUAL OF PATENT OFFICE PRACTICE AND PROCEDURE'. It should include the following sections in order. 1. TITLE OF THE INVENTION. 2. BACKGROUND OF THE INVENTION. 3. (a). Field of the Invention. (b). Description of Related Art. 4. BRIEF SUMMARY OF THE INVENTION. 5. BRIEF DESCRIPTION OF THE DRAWING(S). 6. DETAILED DESCRIP-

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... OF THE INVENTION. 7. CLAIMS. 8. ABSTRACT. 9. DRAWINGS. 7. The specifica-
tion should be re-drafted properly for further examination of the application and it should
be within the purview of section 59 of the Patent Act, 1970."

The applicant humbly submits that structure of the complete specification has been amend-
ed. The complete specification has been amended to incorporate line numbers, page number
and margins as prescribed. The extraneous matter and blank space has been deleted. The
prescribed fees have been paid. The applicant humbly submits that the amendments made
in the complete specification has been freshly typed and filed in duplicate along with a
marked copy clearly highlighting the corrections/amendments made in originally filed
complete specification has (submitted herein along with the response). No new matter is
added and the amendments done do not change the scope of original disclosure.

Format of Drawings

With regards to objection that, *"The Drawings referred to in the specification should be
prepared in accordance with the instructions contained in the Rule 15 of the Patent Rules,
2003 (as amended in 2006)."*

The applicant herby submitting drawings with this response.

Other Deficiencies

With regards to objection that, *"1. All the submitted documents and forms like PA/GPA etc.
have been presumed as originally signed by the authorized signatory under the provisions
of the Patents Act, 1970. If not, submit the originally signed copy of the same failing to
which the document may not be considered filed.*-**Noted and complied with.**

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2. All forms should be filed in proper format as per the second schedule of The Patents Act 1970 (amended 2005). Also the forms should be duly updated and filed with names/ signatures/ addresses/ nationality in consistent and prescribed manner.

3. If any amendment is necessitated in the complete specification then it is required to clearly identify (submission of marked copy) the amendments carried out and to indicate the portion (page no and line no) of the complete specification as filed on which these amendments are based on. Further the pages wherever amendments are carried out need to be freshly typed on white pages and to be filed in duplicate.

4. In case the applicant decides to amend the claims subsequent to this report, the same shall be drafted afresh to include the technical advancement over the prior art as required u/s 2(1)(ja) of the Patent's Act. Please Indicate in the response communication the support for the claims in the original specification, as required u/s 10(4) of the Act. Care should be taken that amendment also met the requirement of section 59 (1) of the Act. Provide an additional copy of marked up amendments (highlighting the amendments) where ever applicable. In case the applicant decides to contest this report, the reasons therefor may please be indicated in the response communication.

5. A fresh set of all the Forms shall be submitted in the office bearing the application number on it and properly signed by the applicant/agent along with their registration number(in case signed by the agent).

6. Please note that this Examination is done on the basis of electronically uploaded documents in the e-module only. You may verify if all documents as filed are uploaded electronically, and bring to the notice of the concerned discrepancies if any-**Noted and complied with.**

7. Form 3 is not furnished.

8. All the independent claims should start with the article 'A/An' and all the dependent claims should start with the article 'The'.

9. Form 1 should be signed by all the applicants/inventors."-**Noted and complied with.**

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The applicant humbly submits that all other forms are filed at the time of filing application, and no application number was given at that time that's why no mention of application number in Forms. The applicant humbly submits that the amendments made in the complete specification and claims has been freshly typed and filed in duplicate along with a marked copy clearly highlighting the corrections/amendments made in originally filed complete specification and claims has (submitted herein along with the response). No new matter is added and the amendments done do not change the scope of original disclosure. All other forms are in prescribed format. The amended claims incorporate proper antecedents. The applicant humbly submits that there is no patent application filed outside India, the applicant hereby submitting form 3 with this response.

Conclusion:

Applicant submits amendments and remarks in view of the office action. Applicant believes to have overcome all objections mentioned in the examination report, and believes that the application is now in condition for allowance. Applicant respectfully requests that a timely notice of allowance be issued in this case. In case of any query, the Examiner is requested to call the undersigned. We request the Examiner to kindly offer us an opportunity of being heard under Section 14 of the Indian Patent Law before taking a decision adverse to the Applicant's interest.

Yours faithfully,

Enclosures:

1. Amended Claims-Marked
2. Amended Claims-Clean Copy
3. Amended Complete Specification- Marked
4. Amended Complete Specification- Clean Copy
5. Drawings

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6. Form 1
7. Form 3

Saurabh Kumar Jain

(IN/PA-3637)
Agent for Applicant

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1. TITLE OF THE INVENTION

THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS

2. APPLICANTS (S)

NAME	NATIONALITY	ADDRESS
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Ms. Radha .T	Indian	Assistant Professor St. Claret College, Jalahalli, Bangalore, Pin: 560013, Karnataka, India.

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Dr. Pallavi Prasad Jamsandekar	Indian	Professor, Bharati Vidyapeeth (Deemed To Be University), Institute of Management And Rural Development Administration, Rajwada Chowk, Sangli, Pin: 416416, Maharashtra, India.
Mrs. Gayathri B	Indian	Assistant Professor, M.A.M B- School, Siruganur, Trichy, Pin: 621105 Tamilnadu, India.
Dr. Arul Selvan Asirvatham	Indian	Assistant Professor. Muthayammal Engineering College, Kakaveri, Rasipuram, Namakkal District. Pin: 637408. Tamilnadu, India.
Dr.Rupa Zabulal Gupta	Indian	Assistant Professor Smt.Radhadevi Goenka College for Women Akola. Murtizapur Road,opp. Nehru Park,Shastri Nagar, Akola, Pin:444001, Maharashtra,

	India.
Mr. Amol supdu Adik	Indian	Assistant Professor ICEEM, Waluj, Aurangabad, Pin: 431136 Maharashtra, India.
Dr. Narendra Ryali	Indian	Assistant Professor, Koneru Lakshmaiah Education Foundation, Green Fields, Vaddeswaram, Tadepalle Mandal, Guntur, Pin: 522302, Andhra Pradesh, India.
Dr. Harikumar Pallathadka	Indian	Director and Professor, Manipur International University, Ghari, Imphal, Imphal West, Pin: 795140, Manipur, India.

2. PREAMBLE TO THE DESCRIPTION

COMPLETE SPECIFICATION

The following specification particularly describes the invention and the manner in which it is to be performed

THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS

ABSTRACT:

Derived from psychological studies, social capital holds significant significance in establishing network linkages inside organisations. It exerts an impact on the direction and inclination of network connections in start-up companies and has progressively emerged as a significant feature in the scholarly examination of entrepreneurship. Nevertheless, the correlation between this factor and the efficacy of innovation remains ambiguous. This study categorises social capital into two types: bonding social capital and bridging social capital. The study collects particular data from agricultural entrepreneurs using questionnaire surveys. The findings indicate that both bonding and bridging social capital exert a notable and favourable impact on the performance of agricultural entrepreneurship. The ability of agricultural entrepreneurs to engage in entrepreneurial activities determines the connection between social capital and innovative performance. Operational competency positively influences the relationship between integrated social capital and creative performance, whereas opportunity recognition has a negative impact. Conversely, in the correlation between bridging social capital and creative performance, opportunity recognition has a beneficial impact while operational competency has an adverse one.

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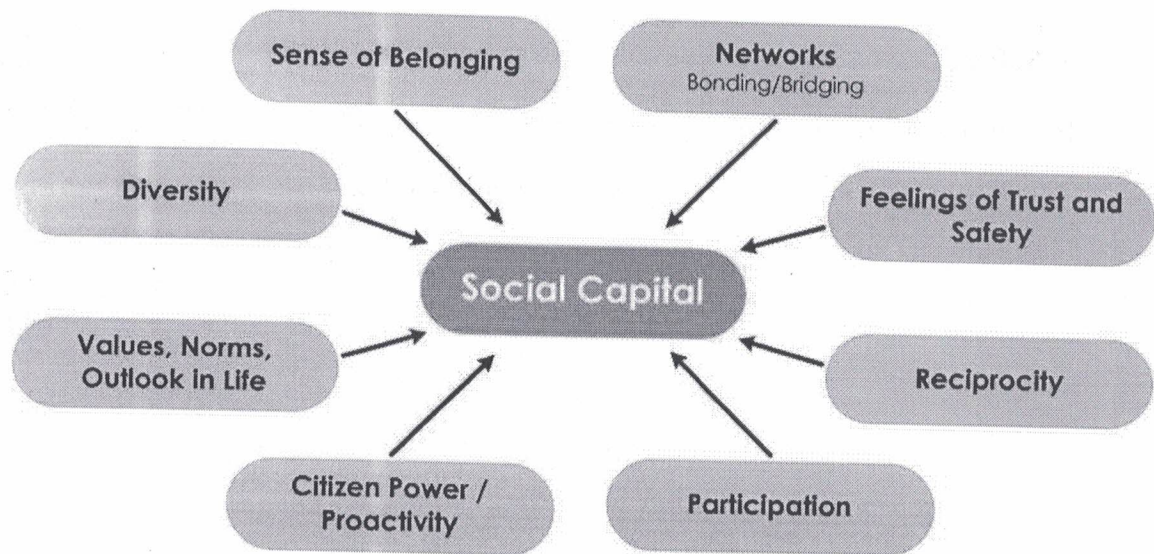Excellence In Engg. & MG

DESCRIPTIONS:

Social capital, initially conceptualised by sociologists, refers to the utilisation of interpersonal connections and relationships, such as those within communities, friendships, professional networks, and family ties, to generate social capital and personal prosperity. Social capital is the result of long-term cultivation of interpersonal relationships, which serves as a solid basis for group trust, cooperation, and collective action. The social capital hypothesis examines how long-term interpersonal ties can serve as a useful asset for individuals inside a network. Social networking plays a crucial role in the advancement and progress of both well-established and newly-formed enterprises, serving as a vital platform for individuals, teams, and organisations to obtain external information and resources. New businesses frequently encounter "new entry barriers" and "small size limitations" due to their novelty and limited scale, resulting in significant resource constraints. Entrepreneurs frequently utilise social networks to gain access to valuable information and resources, identify and develop valuable opportunities, and nurture core competencies in order to establish a competitive advantage and consistently ensure the long-term viability of their new business. Network orientation refers to the inclination or mindset of utilising the Internet to address entrepreneurial challenges. As previously said, emerging businesses in China's transitioning economy have various limitations, including insufficient resources and inadequate financing to obtain the required resources. Consequently, they actively pursue network connections as a means to address these issues, meaning that new enterprises are more focused on building networks. Currently, numerous government programmes are

promoting the advancement of agricultural and rural innovation and entrepreneurship as a means to revitalise rural communities. Social capital is a valuable and significant resource for agricultural entrepreneurs, with a beneficial impact on entrepreneurial activities in rural regions. It has been extensively examined in research on the performance of agricultural entrepreneurship. Researchers have examined the influence of many forms of social capital, including geography, familial, and karma social capital, on entrepreneurship. Due to technological advancements and shifts in the economic landscape of rural communities, social capital for agricultural entrepreneurs has undergone transformation, resulting in an increased number and greater diversity of available resources. The social capitals can be categorised into two types: bonding social capital, characterised by strong connections, and bridging social capital, characterised by weak connections. Nevertheless, there is a dearth of study about the correlation between these two forms of social capital possessed by entrepreneurs and their impact on entrepreneurial performance within the realm of agricultural entrepreneurship. This study examines the influence of bonding and bridging social capital on the performance of agricultural entrepreneurs. The research focuses on agricultural entrepreneurs and considers two types of entrepreneurial abilities, namely, opportunity recognition and operational competency, as moderating variables. The study also analyses the role of resources and entrepreneurial factors in agricultural entrepreneurial performance. Emerging businesses frequently encounter intrinsic entrance barriers and minor operational flaws due to their novelty and limited size, resulting in significant resource limitations. Hence, social capital plays a crucial role in the progress and advancement of both well-established and emerging enterprises, serving as a vital conduit for individuals, teams, and organisations to acquire information
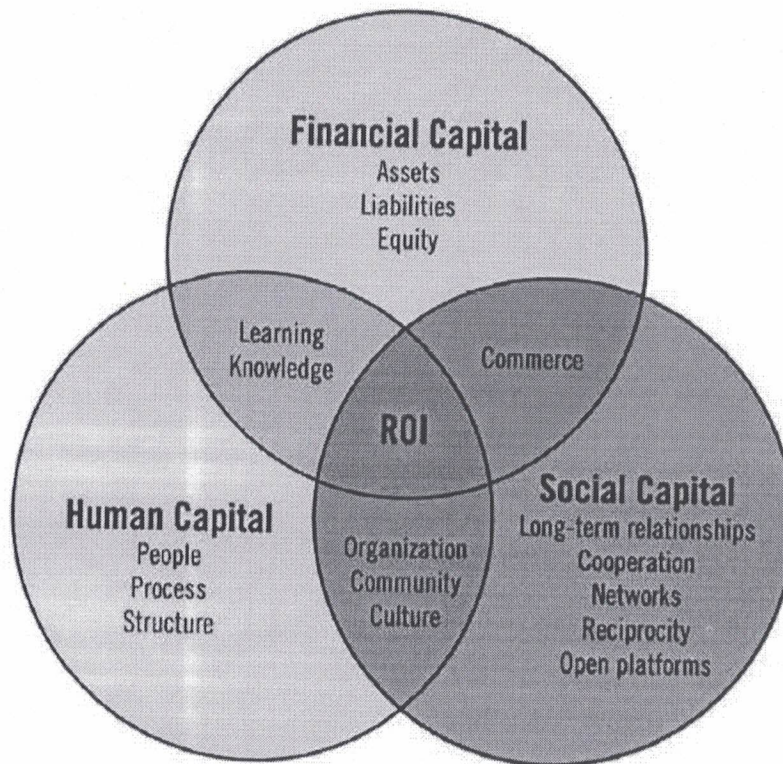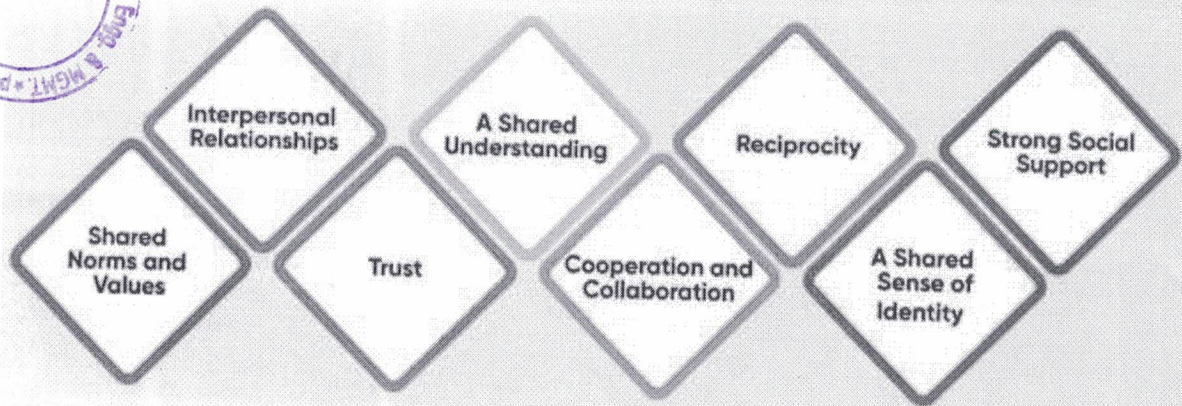
and resources from external entities. When entrepreneurs implement entrepreneurship, they usually establish and utilise social connections to obtain important information and resources, recognise and develop valuable opportunities, and nurture essential skills to gain a competitive edge and consistently maintain the long-term viability of the new business.
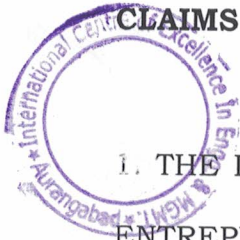
DRAWINGS:

Social Capital Helps Social Groups Function Through

Interpersonal Relationships

A Shared Understanding

Reciprocity

Strong Social Support

Shared Norms and Values

Trust

Cooperation and Collaboration

A Shared Sense of Identity

Financial Capital
Assets
Liabilities
Equity

Learning Knowledge

Commerce

ROI

Human Capital
People
Process
Structure

Organization
Community
Culture

Social Capital
Long-term relationships
Cooperation
Networks
Reciprocity
Open platforms

Social Capital is one of the three major business catalysts

CLAIMS

1. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said it provides a ground work for future research.

2. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said that in this paper, we discussed various aspects.

3. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said that This study seeks to investigate the correlation between an individual's social capital background and their involvement in entrepreneurial endeavours.

4. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said that it is an effective tool.

5. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said that this research looks at all limitations and challenges.

6. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said that The aim of this

study is to examine the relationship between an individual's social capital background and their engagement in entrepreneurial activities.

7. THE IMPACT OF SOCIAL CAPITAL ON START-UP PERFORMANCE WITHIN ENTREPRENEURIAL NETWORKS of claim 1, wherein said that the objective of this research is to analyse the correlation between an individual's social capital background and entrepreneurship.

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