

Manoj Kaushik

(Member and student chair IEEE-GRSS Kerala chapter)

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EDUCATION

Indian Institute of Space Science and Technology, Thiruvananthapuram (Department of Space, India)

- Ph.D. @ Department of Earth and Space Sciences, Jan'2022 – present
- Area: Deep learning approaches for automatic cloud detection in time series multi-sensor satellite imagery
- Supervisor: Dr. Rama Rao Nidamanuri

Centre for Advanced Studies, AKTU, Lucknow (Govt. Research Institute)

- M.Tech. in CSE-ML Specialization (Gold Medalist), 2019-21
- CGPA: 9.06 out of 10
- Master's Dissertation: Analysis and Diagnosis of specific language impairment problem using Deep Learning
- Supervisor: Prof. M.K. Dutta

Kamla Nehru Institute of Technology (Govt. Engineering College)

- B.Tech. in Information Technology, 2012-16
- Percentage: 76
- Project: Ease At KNIT: An e-commerce web portal to enable students to sell their spare commodities within the college
- Project Guide: Prof. Awadhesh Kumar

PUBLICATIONS

Journal papers:

- Manoj Kaushik, Rakesh Chandra Joshia, Atar Singh Kushwah, Maneesh Kumar Gupta Monish Banerjee Radim Burget Malay Kishore Dutta, “*Cytokine Gene Variants and Socio-Demographic Characteristics as Predictors of Cervical Cancer: A Machine Learning Approach*” Computers in Biology & Medicine, DOI: doi.org/10.1016/j.compbimed.2021.104559, 2021, Elsevier Publishers, SCI indexed Impact Factor – 6.698. [Q1 Ranking Paper](#)
- Manoj Kaushik, Neeraj Baghel, Radim Burget, Carlos M. Travieso, M.K.Dutta, “*SLINet: Dysphasia Detection in Children using Deep Neural Network*” Biomedical Signal Processing and Control, Elsevier Publisher, DOI: doi.org/10.1016/j.bspc.2021.102798, Volume 68, July 2021, 102798. SCI indexed Impact Factor – 5.076. [Q2 Ranking Paper](#)
- Rakesh Chandra Joshi, Manoj Kaushik, Malay Kishore Dutta, Ashish Srivastava & Nandlal Choudhary, “*VirLeafNet: Automatic Analysis and Viral Disease Diagnosis Using Deep-Learning in Vigna Mungo Plant*” Ecological Informatics, doi.org/10.1016/j.ecoinf.2020.101197, 2020, Elsevier Publishers, SCI indexed Impact Factor – 4.498. [Q2 Ranking Paper](#)
- Khan, Juwairiya Siraj, Manoj Kaushik, Anushka Chaurasia, Malay Kishore Dutta, and Radim Burget. "Cardi-Net: A deep neural network for classification of cardiac disease using phonocardiogram signal." Computer Methods and Programs in Biomedicine 219 (2022): 106727. Elsevier Publishers, SCI indexed Impact Factor – 7.027 [Q1 Ranking Paper](#)

International Conference Papers:

- Kaushik, Manoj, Rama Rao Nidamanuri, B. Aparna, and A. M. Ramiya. "Spectral discrimination of vegetable crops using in situ hyperspectral data and reference to organic vegetables." In 2023 International Conference on Machine Intelligence for GeoAnalytics and Remote Sensing (MIGARS), vol. 1, pp. 1-4. IEEE, 2023.
- Kaushik, Manoj, Divyanshu Singh, Malay Kishore Dutta, and Carlos Manuel Travieso González. "A deep learning approach for epilepsy seizure detection using EEG signals." *Tecnología en Marcha* 35, no. 4 (2022): 110-118.
- Kaushik M., Rani S., Yadav V. (2021) Vocalist Identification in Audio Songs Using Convolutional Neural Network. In: Biswas A., Wennekes E., Hong TP., Wieczorkowska A. (eds) *Advances in Speech and Music Technology. Advances in Intelligent Systems and Computing*, vol 1320. Springer, Singapore. https://doi.org/10.1007/978-981-33-6881-1_9
- Rani S., Kaushik M., Yadav V. (2022) Identifying Mood in Music Using Deep Learning. In: Raje R.R., Hussain F., Kannan R.J. (eds) *Artificial Intelligence and Technologies. Lecture Notes in Electrical Engineering*, vol 806. Springer, Singapore. https://doi.org/10.1007/978-981-16-6448-9_55

WORK EXPERIENCE

[Project Executive Officer in MeitY GOI and MMMUT, Gorakhpur](#), Oct'21 – Jan'22

-The project title is "*Development of IoT and drone-based agriculture monitoring system with the objective of skill development of a socially deprived community.*"

[Software Developer in Kranti Tech Services Pvt. Ltd., Noida](#), Mar'21-Oct'21

- Applied Machine learning to classify grievance emails using NLP. Used Term Frequency and Inverse Document Frequency (TF-IDF) for features extraction from the prepared dataset.
- Working on Grievance Redressal System (Webnyay), Django Python.

[Worked as a web and mobile app Developer at ICAR-IGFRI, Jhansi](#), Mar'2018-May'2019

-This includes the development of different software modules and applications based on organization requirements.

[Internship in Edureka, Bengaluru as Software Developer](#), 2017

-Worked on learning management system (LMS). Most of the work is on the CakePHP MVC framework and other web technologies.

TECHNICAL SKILLS

Programming Languages and Technologies: Python, TensorFlow, OpenCV, Keras, C, C++, SQL, PHP, HTML, CSS, JavaScript, jQuery

Area of Interest: Artificial Intelligence, Earth Sciences, Remote sensing, and Web development

Platforms: Linux, Windows, Google Colab

Tools: PyCharm, Anaconda, Nvidia CUDA, LaTeX, MS Office, Dev C++, and Adobe Photoshop

TRAINING AND CERTIFICATIONS

Research Paper presentation at International Conference in:

- [IWOBI](#): Costa Rica, 2020
- [ICRTAC](#): VIT Chennai, 2020
- [FRSM](#): NIT Silchar, 2020

AICTE (ATAL FDP) training [certificate](#) on Bio-medical instrumentation, 2020

[First Position](#) at Innovation Idea Contest organized at AKTU, 2020

[Award](#) of Best Team from ICAR-IGFRI on Developing Mobile App, 2018

GATE'17 and GATE'19 Qualified, 2017 & 2019
Certificate in [Data Analytics](#), Introductory Course in [Python](#), [OOP in C++](#), 2017

PROJECTS

[Partial Least Square Regression Analysis of Soil Organic Carbon \(SOC\) of Hyperspectral Imagery](#)

Developed SOC various maps of airborne Hyperspectral imagery using PLS, SVC, and Random Forest Regression with various wavelet decompositions.

[PCGNet: Deep learning and Power Spectrogram-based automatic diagnosis of multiple cardiac diseases using Phonocardiogram signals](#)

Developed a deep learning model to detect a cardiovascular disease from the Phonocardiogram (PCG) signals. Used power spectrogram technique to convert PCG signals into power spectrogram.

[Iron corrosion image Segmentation using Deep Learning](#)

Segment out various colored corrosion parts in Iron using UNET Deep Learning Architecture.

[Designed a personal web portal with the latest web development technologies](#)

This comprehensive portfolio ([link](#)) contains my latest information, and I continuously add things in my spare time.

[Mailing Management System: An PHP Web App](#)

This application sends Email notifications to Employees to avoid the penalty for late settlements of their office Advances.

[Chara-App: Hybrid Mobile Application](#)

This android mobile application provides all information and technologies regarding better Fodder production for farmers.

[Drishticone: College Newsletter Website](#)

Web portal for college Students in which college-related news can be found easily in one place and the placement guidance-related articles.

[Analysis of Parallel Algorithms](#)

Analyzed the time and space complexity of parallel algorithms over sequential algorithms. Designed Parallel hybrid sort algorithm to run on multiple cores using MATLAB (PCT tool).

CASE STUDIES

[Decision Support System \(DSS\)](#)

A comprehensive study of various DSS's in agriculture area for better utilization of agricultural resources to benefit the Farmers.

[Mammography Image Segmentation](#)

This study involves the study of a variety of Machine Learning and Deep Learning Architectures used to segment out the Breast Cancer part from a digital Mammogram to reduce radiologist dependency.

RESPONSIBILITY AND EXTRACURRICULAR

- Volunteered in International Yoga Mohotsav in IIST Thiruvananthapuram.
- Managed, taught and volunteered in DST funded three-week winter school training.
- Managed, taught and volunteered in IEEE GRSS one day hands-on workshop in IIST.
- Managed and volunteered Geo Innovation challenge in April'2022 organized by the Department of Science and Technology (DST, Govt. of India)
- Managed and volunteered in IC3A2020 (International Conference on Contemporary Computing and Applications) Organized by AKTU and CAS in February'2020