DR. INDRAJIT KALITA
Postdoctoral Researcher, Computing and Data Sciences (CDS), Boston University
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PROFESSIONAL APPOINTMENTS

Postdoctoral Researcher, Computing and Data Sciences (CDS), Boston University, Boston, USA 2023 – Present
Research Associate, CYENS-Centre of Excellence (SuPerWorld MRG), Nicosia, Cyprus 2022 – 2023
Assistant Project Engineer, Indian Institute of Technology Guwahati, India 2014 – 2015

EDUCATION

PhD in Computer Science & Engineering, Indian Institute of Information Technology Guwahati 2017 – 2022
Dissertation Title: "Deep learning based adaptive land cover monitoring by analyzing remotely sensed images", awarded September 2022

Master of Technology in Information Technology, Tezpur University 2015 – 2017
Dissertation Title: "Image Classification using Deep Convolutional Neural Network", CPI 9.06/10 with Distinction

Bachelor of Engineering in Computer Science & Engineering, Gauhati University 2009 – 2013
Percentage: 71.72%, First class

RESEARCH ROLE AND MAJOR PROJECTS

Project 1: Rainfall Prediction in West Africa Using Deep Learning Link 2023 – Present
- Designed U-Net for short-term rainfall forecasting, Implemented XAI for physics, Investigating UNCERTAINTY QUANTIFICATION using bayesian approach

Project 2: Land Use and Land Cover (LULC) Mapping & Environmental Monitoring Link 2022 – 2023

Project 3: Cyprus TreeMapper - Tree Detection and Counting Link

Project 4: Development of GAEA - Advanced Geo-Analytical Tool in Cyprus Link
- Processed and prepared satellite data, Designed SEGMENTATION and CHANGE DETECTION methods (Project 2, 3, & 4).

Project 5: Innovative Integrated Tools and Technologies to Protect and Treat Drinking Water from Disinfection Byproducts (DBPs) (Project H2OforAll) Link
- Led Work Package 2 (WP2), Applied ML for detection and monitoring of DBPs in water network

RESEARCH EXPERTISE

Deep Learning: Optimization, CNNs, LSTMs, GNNs, Autoencoders for various applications
Computer Vision: Image classification/segmentation, change detection, super-resolution
Programming: C, C++, Python, PyTorch, Tensorflow (keras), MATLAB

SELECTED PUBLICATIONS (2 OF 18)

1. **Kalita, I.**, & Roy, M. (2022). Class-Wise Subspace Alignment-Based Unsupervised Adaptive Land Cover Classification in Scene-Level Using Deep Siamese Network. *IEEE Transactions on Neural Networks and Learning Systems*, 34(7), 3323-3334.
2. **Kalita, I.,** & Roy, M. (2020). Deep neural network-based heterogeneous domain adaptation using ensemble decision making in land cover classification. *IEEE Transactions on Artificial Intelligence*, 1(2), 167-180.

ACADEMIC AWARDS

Year-Round Internship, CYENS-Centre of Excellence, Cyprus 2020
Top 200 in SAMADHAN Online Challenge, Ministry of Human Resource Development, India 2021
Top 10 in Machine Learning Feature Extraction Competition, ICETCI & NRSC-ISRO 2021
First Runner-up, AAROHAN-2013 State-Level Project Competition, ABVP, India 2013

PROFESSIONAL AFFILIATIONS &VOLUNTEER ACTIVITIES

Professional Memberships: IEEE Member (ID: 93680859)
Journal Reviewer: IEEE-TAI, T&F-IJDE, Elsevier-ASR, Springer-Discover Computing
Administrative Activities: 2021-2022: General Secretary of the Welfare Board, IIIT Guwahati