

Omprakash Chakraborty PhD Scholar

The Centre for Excellence in Artificial Intelligence (CoEAI)
Indian Institute of Technology Kharagpur
Kharagpur
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Research Interests:

Computer Vision (Activity Detection, Person Re-identification, Vision and Language, Video Summarization and Machine Learning)

Spatial Informatics (Natural Disaster Analysis and Management, Spatio-Temporal Data Mining, Geographic Information Sciences)

Education:

PhD, Centre for Excellence in Artificial Intelligence(2019-Present) Indian Institute of Technology Kharagpur Topic: Semi and Un-Supervised Representation Learning for Efficient Video Understanding Guide: Prof. <i>Abir Das</i> , Department of Computer Science and Engg., IIT Kharagpur	ongoing
MS, Computer Science and Engineering(2015-2018) Indian Institute of Technology Kharagpur Topic: Multi-Criteria based Network Analysis for Disaster Mangement Guide: Prof. <i>Soumya K. Ghosh</i> , Department of Computer Science and Engg., IIT Kharagpur Prof. <i>Pabitra Mitra</i> , Department of Computer Science and Engg., IIT Kharagpur	9.44/10
B.Tech in Information Technology(IT)(2011-2015) Haldia Institute of Technology, Haldia, West Bengal University of Technology	8.58/10
Higher Secondary Examination (2009-2011) Kendriya Vidyalaya, Haldia, West Bengal CBSE-AISSCE	89.4 %
Secondary Examination (2008-2009) The Assembly Of God Church School, Haldia, West Bengal ICSE	93 % (best of 5)

Past Research Activities:

- Integrated Information System and Knowledge Discovery Platform for ONGC (IIS)** (*June'18 - Jun'19*)
Project under **J. C. Bose Fellowship** Scheme, under the guidance of Prof. P. P. Chakrabarti, Prof. Jiaul H. Paik and Prof. Sudeshna Sarkar, IIT KGP
 - Machine learning paradigms to aid various inference modules and evaluation policies for diverse seismic and oil extraction processes.
 - Self-Learning aids Knowledge Graph and Workflow development towards efficient distributed data management
- Multi-criteria based network analysis for disaster management** (*June'15 - Jun'18*)
MS research work, under the guidance of Prof. Soumya K. Ghosh and Prof. Pabitra Mitra, IIT KGP and Prof. T. N. Mazumdar, in collaboration with Dept. of Architecture IIT KGP
 - Analysis of spatial vulnerability of facility access links along with citizen mobility
 - Suitable facility-location prediction for efficient service provisioning during flood hazards
- National Level Registry Catalog Service for NSDI and Dept. of Science and Technology(DST)** *Aug'16 - June'18*
JRF, Research Project, under MHRD scheme of Prof. Soumya K. Ghosh et al, IIT KGP
 - Development of a Registry Service to serve as a platform for publishing Geographic information from heterogeneous hierarchical govt. units. using OGC compliant standard GeoSMS
 - The service is been deployed by the Department of Science and Technology, India, at a National Level.

- (d) **Decision Support System for Transportation of Hazardous Materials in City Region of Kolkata** *June'15 - June'18*
JRF, Research Project, under MHRD scheme of Prof. Soumya K. Ghosh et al, IIT KGP
- Efficient framework to assist routing decision for hazard-material bearing transportations within Kolkata, West Bengal
- (e) **Optimization of Berth Scheduling Problem using Genetic Algorithm** *Mar'13 - Jan'15*
Btech Research Project, under Prof. Soumen Paul at Haldia Institute of Technology
- Berth allocation optimization for riverine port of Haldia

Experience:

Dec'19 - present	Teaching Assistant for Deep Learning(DL) with 70+ students for every semester in which the course was offered
Jun'16 - present	Teaching Assistant for Programming and Data Structure(PDS), with 90+ students for every semester in which the course was offered
Jun'18 - June'19	Junior Research Fellow at Department of Computer Science and Engg., IIT Kharagpur.
Jun'15 - June'18	Junior Research Fellow at Department of Computer Science and Engg., IIT Kharagpur.
Dec'16 - Jun'17	Teaching Assistant for Relational Database Management Systems(RDBMS) with 90+ students
Jun'18 - Jun'19	Teaching Assistant for Machine Learning (ML), assisting Prof. Pabitra Mitra, with 80+ students
Dec'16 - Jun'17	Teaching Assistant for Online Data Mining, NPTEL Course

Selected Publications:

- (a) **AnyDA: Anytime Domain Adaptation**,
O Chakraborty, Aadarsh Sahoo, Rameswar Panda, Abir Das
International Conference on Learning Representations (ICLR), 2023.
- (b) **Semi-Supervised Action Recognition with Temporal Contrastive Learning**,
O Chakraborty, Ankit Singh, Ashutosh Varshney, Rameswar Panda, Rogerio Feris, Kate Saenko, Abir Das
Computer Vision and Pattern Recognition (CVPR), 2021
- (c) **Multi-facilities based Road Network Analysis for Flood Hazard Management**,
O Chakraborty, P Mitra, S K. Ghosh
Journal of Spatial Science, 2019
- (d) **Multi-objective based road-link grading for health-care access during flood hazard management** ,
O Chakraborty, Yeshwanth V, P Mitra, S K. Ghosh
International Conference on Computational Science and Its Applications(ICCSA), 2018
- (e) **A Multi-objective Framework for Assessment of Road Network Vulnerability and Facility Location for Flood Hazard**,
O Chakraborty, A Das, A Dasgupta, P Mitra, S K. Ghosh, T N. Mazumdar
Transactions in GIS, 2017
- (f) **A Geospatial Service Oriented Framework for Disaster Risk Zone Identification**,
O Chakraborty, J Das, A Dasgupta, P Mitra, S K. Ghosh
International Conference on Computational Science and Its Applications(ICCSA), 2016

Awards and Achievements:

- (a) Joint Runner's Up for **ACM Kolkata Chapter Best BTech (CS/IT) Dissertation Award**
- (b) **Topper of I.T. Department**, from 6th semester onwards (W.B.U.T.).
- (c) AAT: Obtained 8th **rank all over India** in Chemistry in the National Achievement and Aptitude Test.
- (d) Ranked among the **Top 25** who qualified for **Overnite, the ICPC based Programming Contest, Kshitij, IIT-Kharagpur**

Internships

- (a) **The Indian Institute of Technology (IIT) Kharagpur, West Bengal.**– (Jun 23, 2014 Jul 10, 2014)
GeoSpatial data modelling and development of Android Client Application for Map Service.
 - Built an application aimed to view and model the GIS services in hand-held mobile devices .
- (b) **The Calcutta Electric Supply Corporation (CESC) Ltd., Theatre Road, Kolkata, West Bengal.** –
Guide: Dr. Siddhartha Nandi (Jun'12 - Jul'12)
Employee Management System Development based on applications of JAVA & ORACLE.
 - Worked in making an user-friendly interface for managing the employee directory for easy inclusions and alterations of the company's employee database.

Workshops Organized:

- The *Dynamic Neural Networks Meets Computer Vision* Workshop, CVPR ([2021](#), [2022](#)).
- Conducted yearly workshops on Geospatial Data Modeling, Registry Services and Mobile Apps for GI Application for Government Officials from sixteen National Agencies - Worked with a team of 6, and headed the GIS based Registry Service Development Session (July 2016). Organized an earlier phase of the same workshop in March 2016

Professional Services:

- Reviewer for Association for the Advancement of Artificial Intelligence (AAAI), Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP)

Extra Curricular Activities:

- Won many medals in various sports events which include basketball and athletics.
- Active part in Anti-Ragging Committee.
- Interested in singing and other music related activities.