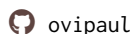


Ovi Paul



ovipaul



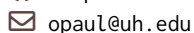
ovipaul



ovipaul



<https://ovipaul.github.io>



opaul@uh.edu



Houston, TX, USA

Education

- 2023 - ···· **University of Houston - Ph.D.** in Geosensing System Engineering & Science
Supervisor: Prof. Craig L. Glennie
- 2015 - 2020 **Independent University Bangladesh - B.Sc** in Computer Science & Engineering.
Major: Computer Science & Engineering
Minor: Economics
Thesis title: Land Use and Land Cover Semantic Segmentation on Bangladesh using Deep-Learning.

Employment History

Research Experience

- Aug 23 - ···· **National Center for Airborne Laser Mapping (NCALM)**
Position- Graduate Research Assistant(Full-Time)
Supervisor- Dr. Craig L. Glennie(University of Houston)
- Extensive literature review in the domain of LiDAR and Deep Learning to establish a strong theoretical foundation.
 - Handling and processing point cloud data, involving acquisition, preprocessing, and analysis.
 - Developing and implementing novel algorithms for deep learning computation.
 - Actively involved in writing, documenting, and presenting research findings effectively.
 - Continually refining and optimized algorithms based on empirical results and feedback from ongoing experiments.
- Feb 22 - ···· **Center for Computational & Data Sciences(CCDS)**
Position - Research Assistant (Part-Time)
Supervisor - Dr. AKM Mahbubur Rahman (Independent University Bangladesh)
- Working with state-of-the-art Deep Learning models, analyzing the whole architecture.
 - Collecting satellite and aerial images and creating ground truth for it.
 - Developing the pre-processing and post-processing procedure for the data set.
 - Creating pipelines for the whole procedure and doing continuous integration and maintenance.
 - Staying up-to-date with recent publications of the relevant field.
 - Writing scientific papers and documentation.
- Feb 20 - Dec 21 **Artificial Intelligence and Cybernetics Lab(AGenCy Lab)**
Position - Research Assistant (Full-Time)
Supervisor - Prof. Ryosuke Shibasaki (University of Tokyo)
Dr. Moinul Islam Zaber (University of Dhaka)
- Utilizing cutting-edge Deep Learning models, investigating the system's architecture.
 - Gathering ground truth via aerial and satellite imagery.
 - Making preparations for the data set's pre- and post-processing.
 - Establishing continuous integration and maintenance pipelines for the entire process.
 - Remaining current with latest works in the pertinent subject.
 - Producing documentation and scholarly articles

Employment History (continued)

Professional Experience

Jan 22 -

■ **AinoviQ IT LTD.**

Position - Artificial Intelligence Engineer (Full-Time)

- Studying related literature on the working problem.
- Designing and developing machine learning and deep learning systems.
- Running machine learning tests and experiments.
- Working on cutting-edge research in artificial intelligence and machine learning applications.
- Contribute to engineering efforts from planning and organization to execution and delivery to solve complex, real-world engineering problems.

Teaching & Mentoring Experience

2021 - 2022

■ **Light of Hope**

Position - Coding Instructor

- Teaching introductory programming lessons to Data Analysis, Game Development and Web Development
- Preparing and delivering lesson plans and instructional materials that facilitate active learning
- Instructing and monitoring students in the use of learning materials and equipment

2016 - 2019

■ **Independent University Bangladesh**

Position - Teaching Assistant

- Courses Assigned were- CSC101 - Introduction to Programming, CSC204 - Data Structure, CSC317 - Numerical Method
- Taking lab classes and extra coding classes on C++ and Matlab
- Preparing questions and marking for quiz and assignments

Skills

Programming Language:	■ Python, C++, Matlab, Java, PHP, R, x86 Assembly
Frameworks	■ Pytorch, Electron, Bootstrap, Streamlit, Flask
Library	■ OpenCV, GDAL, Numba, Scikit-Learn, Pillow
Databases	■ MySQL, PostgreSQL
GIS Tools	■ QGIS, eCognition, SNAP, ArcGIS, SAS Planet
Web Dev	■ HTML, CSS, JavaScript, Apache Web Server
Miscellaneous	■ L ^A T _E X, Git, Anaconda, SCP, SSH, TMUX, Shell

Research Publications

Journal Articles

- 1 A. K. M. M. Rahman, M. Zaber, Q. Cheng, A. B. S. Nayem, A. Sarker, **O. Paul**, and R. Shibasaki, "Applying state-of-the-art deep-learning methods to classify urban cities of the developing world," *Sensors*, vol. 21, no. 22, 2021. [DOI: 10.3390/s21227469](https://doi.org/10.3390/s21227469).

Conference Proceedings

- 1 Q. Cheng, A. M. Rahman, A. Sarker, A. B. S. Nayem, **O. Paul**, A. A. Ali, M. A. Amin, R. Shibasaki, and M. Zaber, "Deep-learning coupled with novel classification method to classify the urban environment of the developing world," in *2nd International Conference on Signal Processing and Machine Learning (SIGML)*, Zurich, Switzerland, 2021. [DOI: 10.48550/arXiv.2008.10736](https://doi.org/10.48550/arXiv.2008.10736).
- 2 F. F. Niloy, Arif, A. B. S. Nayem, A. Sarker, **O. Paul**, M. A. Amin, A. A. Ali, M. I. Zaber, and A. M. Rahman, "A novel disaster image data-set and characteristics analysis using attention model," in *25th International Conference on Pattern Recognition (ICPR)*, Milano, Italy, 2021, pp. 6116–6122. [DOI: 10.1109/ICPR48806.2021.9412504](https://doi.org/10.1109/ICPR48806.2021.9412504).


- 3 A. B. S. Nayem, A. Sarker, **O. Paul**, A. Ali, M. Ashraful Amin, and M. R. AKM, "LULC Segmentation of RGB Satellite Image Using FCN-8," in *3rd SLAAI-International Conference on Artificial Intelligence (ICAI)*, Belihuloya, Sri Lanka, 2019. [DOI: 10.48550/arXiv.2008.10736](#).
- 4 **O. Paul**, "Image pre-processing on numtadb for bengali handwritten digit recognition," in *2018 International Conference on Bangla Speech and Language Processing (ICBSLP)*, Sylhet, Bangladesh, 2018, pp. 1–6. [DOI: 10.1109/ICBSLP.2018.8554910](#).

Presentation



Conference Presentation

- Sep 18  **International Conference on Bangla Speech and Language Processing(ICBSLP)**
Image Pre-processing on NumtaDB for Bengali Handwritten Digit Recognition

ICT Presentation






- Dec 19  **ICT Innovation Fund - Bangladesh**
LULC Semantic Segmentation on Bangladesh Using Deep Learning

Open-Source Projects




- Dec 19  **Zenith**
A high level Python library made with PYPI. It's a tool for data manipulation and processing in Python ecosystem.
-  **Enigma Simulator**
An encryption device used in the World War II made using Python and Streamlit.

Miscellaneous Experience





Awards and Achievements

- 2018 - IEEE  **Winner**- Intra IUB Programming Contest
- 2018 - ACM  **Regional Qualifiers** - ICPC Asia Dhaka Regional Contest
- 2018 - IUB  **2nd Runner Up** - Makers' Mania 2018(QuadCopter)
- 2018 - ACM  **Regional Qualifiers** - ICPC Bangladesh IUBAT NCPC
- 2017 - IEEE  **Winner** - IEEE Day Programming Contest 2017


Professional Affiliations/Services

- 2021 -  **ReScience C**
- Reviewer
- 2022  **26th International Conference on Pattern Recognition (ICPR 2022, Montréal, Canada)**
- Technical Committee(Reviewer)
- 2018 - 2019  **Institute of Electrical and Electronics Engineers(IEEE)**
- Former Student Member

Relevant Academic Courses

-  Artificial Intelligence
-  Image Processing
-  Linear Algebra
-  Software Engineering

Extracurricular Activities

-  Volunteered for 5th International Conference on Advances in Electrical Engineering (ICAEE).

Extracurricular Activities (continued)

- Organized programming contest as part of the IEEE club.
- Organising competitive programming classes as part of the IUB ACM Student Chapter.
- Writing blogs related to computer science.