

# Dibaloke Chanda

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## EDUCATION

<b>Marquette University</b> <i>Master's in Data Science, GPA 4.00 (Expected Graduation Fall 2024)</i>	Jan. 2023 - Present Milwaukee, WI
<b>Military Institute of Science and Technology (MIST)</b> <i>B.Sc. in Electrical, Electronic and Communication Engineering, CGPA 3.98/4.00</i>	Feb. 2017 - Feb. 2021 Dhaka, Bangladesh

## TEACHING/WORK EXPERIENCE

<b>Marquette University</b> <i>Graduate Teaching and Research Assistant</i> <ul style="list-style-type: none"><li>COSC 1010 - Introduction to Software Development</li></ul>	Jan. 2023 - Present Milwaukee, WI
<b>Military Institute of Science and Technology (MIST)</b> <i>Lecturer</i> <ul style="list-style-type: none"><li><b>Taught Courses:</b> Random Signal and Processes, Digital Signal Processing Laboratory, Numerical Techniques Laboratory, Digital Communication Laboratory. [<a href="#">Faculty Profile</a>]</li><li>Mentoring undergrads on deep learning projects.</li><li>Designing and organizing Python Certification Course for undergrad students. [<a href="#">Course Website</a>]</li></ul>	March. 2021 - Dec. 2022 Dhaka, Bangladesh

## PRE-PRINTS (UNDER REVIEW)

- **Dibaloke Chanda**, Milan Aryal, Nasim Yahya Soltani and Masoud Ganji, “**A New Era in Computational Pathology: A Survey on Foundation and Vision-Language Models**”, *arXiv preprint arXiv:2408.14496*, 2024. [[Project Page](#)]
- **Dibaloke Chanda**, Saba Heidari Gheshlaghi and Nasim Yahya Soltani, “**Explainability-Based Adversarial Attack on Graphs Through Edge Perturbation**”, *arXiv preprint arXiv:2312.17301*, 2023.

## SELECTED PUBLICATIONS |

- **Dibaloke Chanda** and Nasim Yahya Soltani, “**A Heterogeneous Graph-Based Multi-Task Learning for Fault Event Diagnosis in Smart Grid**”, *IEEE Transactions on Power Systems* (2024). [[Project Page](#)]
- **Dibaloke Chanda**, Md. Saif Hassan Onim, Hussain Nyeem, Tareque Bashar Ovi and Sauda Suara Naba, “**DCENSnet: A New Deep Convolutional Ensemble Network for Skin Cancer Classification**”, *Biomedical Signal Processing and Control* (2024).
- K S Raja, Adib Bin Rashid, Chowdhury Mohammad Abid Rahman, **Dibaloke Chanda** and N. Ahmad, “**Automated Quality Inspection: An Embedded Machine Vision System for Process Optimization**”, *ICAEEE* 2024.
- **Dibaloke Chanda** and Nasim Yahya Soltani, “**Graph-Based Multi-Task Learning for Fault Detection in Smart Grid**”, *MLSP* 2023. [[Project Page](#)]
- Reefah Tasnia, Reefah Tasnia, AKM Nazrul Islam, **Dibaloke Chanda** and Mohammad Jawad Ul Kabir Chowdhury, “**Channel Estimation at THz Frequency Using cGAN for Massive MIMO System**”, *ICCIT* 2023.
- Tareque Bashar Ovi, Sauda Suara Naba, **Dibaloke Chanda** and Md. Saif Hassan Onim, “**A Transfer-Learning Based Ensemble Architecture for ECG Signal Classification**”, *TENSYP* 2022.
- Koushik Roy and **Dibaloke Chanda**, “**A Robust Webcam-Based Eye Gaze Estimation System for Human-Computer Interaction**”, *ICISSET* 2022.
- Md. Arafat Alam, Sheikh Mehrab Hossain, **Dibaloke Chanda**, and Md Ahsan Kabir, “**Performance Analysis of LSTMs and FBProphet Models for Short Term Load Forecasting**”, *ICEEICT* 2021.

## HONORS AND AWARDS

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### NMDSI Student Research Scholars Award

Summer 2024

- Awarded for conducting research on graph neural network application in smart grid.

### Top 10 Finalist Three Minute Thesis (3MT) Competition

Spring 2024

- Arranged by Graduate School of Marquette University
- Gave a presentation on *Explainability-Based Adversarial Attack on Graph Neural Network*.

### MIST Medal

February 2021

- Awarded to the position holder in each dept earning a minimum CGPA of 3.80.

### MIST Commandant's List of Honour

Feb. 2017 - Feb. 2021

- All students earning CGPA  $\geq 3.8$  at the end of each academic level for levels 1, 2 and 3.
- All graduating students earning CGPA  $\geq 3.8$  considering results of the entire program (level 1 to 4)

## SKILLS SUMMARY

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- **Languages:** Python, R, MATLAB, Dart, Javascript
- **ML Libraries:** PyTorch, TensorFlow, PyTorch Geometric
- **Web Frameworks:** Nodejs, Flask, Django
- **Others:** GIT, SQL, Docker, RShiny, Tableau

## CERTIFICATIONS

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**From Coursera:** [Computer Vision Basics](#), [Data Science Math Skills](#), [Managing Machine Learning Projects with Google Cloud](#), [Understanding and Visualizing Data with Python](#), [Inferential Statistical Analysis with Python](#), [Deep Learning Specialization](#)

## MISCELLANEOUS PROJECTS

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- **Visualize Optical Flow:** Visualized Optical Flow from webcam input and uploaded video using OpenCV and Streamlit. [[GitHub](#)]
- **Instance Segmentation:** Instance segmentation and blurring of background app with PixelLib library and Streamlit as a frontend GUI. [[GitHub](#)]
- **SafeAirbnb:** Developed an app in Rshiny to look up crime rates near an Airbnb listing. It features different filters like time range and category of crimes for more granular controls. [[GitHub](#)]
- **Intelligent Irrigation System:** Developed a smart irrigation solution through an embedded system with Arduino and Raspberry PI. This project earned **3rd place** in the ICEEICT 2018 project competition.

## SERVICES AND VOLUNTEER WORKS

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- Served as a technical program committee member in the 2021 5th International Conference on Electrical Engineering and Information Communication Technology.
- Research Mentor at Visual Information Processing (VIP) Lab, MIST.
- Senior Mentor (Android and IOS App Development) [MIST Innovation Club](#). Designed and conducted a course on teaching Dart programming language as part of the introduction to the Flutter framework for Android and IOS app development. [[Course Website](#)]