

Udisha Dutta Chowdhury

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EDUCATION

- Northeastern University** Boston, MA
• *Master of Science in Cyber Physical Systems - Internet of Things* | gpa: 4.00 Sep. 2023 - May. 2025
 - **Focus Area:** IoT Systems, Machine Learning, Time -Series Forecasting, Network Security, IoT Embedded System Design, Object-Oriented Design, Computer Networking, Connected Devices, Computer Systems Engineering
- PES University** Bengaluru, India
• *Bachelor of Technology in Electronics and Communication; Minor in Computer Science* Aug. 2018 - May. 2022
 - **Relevant Coursework:** Data Structures, Algorithms, OS, Computer Communication Networks, DBMS

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL **Tools:** Matlab, Wireshark, JIRA, Scrum, Kubernetes, Github
ML Tools: Sktime, Skforecast, PyTorch **OS:** Linux(Ubuntu), Windows **MCU:** Arduino Nano, ESP32, Raspberry Pi
Protocol: MQTT, CoAP, TCP/IP, UDP, WiFi, BLE, Bluetooth, I2C, SPI, Matter **IDE:** Eclipse, VS Code

EXPERIENCE

- Northeastern University** Boston, MA
• *Graduate Teaching Assistant* Jan. 2024 - Present
 - **Machine Learning for IoT Systems (TELE6500)** under Prof. Abhishek Murthy: Fall '24
 - **Fundamentals of the Internet of Things (TELE6510)** under Prof. Rolando Herrero: Spring '24
- Schneider Electric** Andover, MA
• *Technical Products Intern - Machine Learning* May. 2024 - Aug. 2024
 - **Machine Learning Product Development:** Built Python-based products using time-series machine learning algorithms for IoT data.
 - **Prototyping and Benchmarking:** Designed frameworks to prototype and benchmark machine learning algorithms using standardized datasets.
 - **Data Handling:** Selected datasets and optimized data representation methods for improved model accuracy.
 - **Model Optimization:** Conducted tests and experiments to refine training and retraining strategies for machine learning systems.
 - **R&D:** Test-driven development to validate machine learning systems throughout the development lifecycle.
- Deloitte and Enterprise Risk Services India Pvt Ltd** Bengaluru, India
• *Solution Delivery Analyst - Cyber Security* Jun. 2022 - Aug. 2023
 - **Security Operations and Threat Management:** Monitored, investigated, and mitigated real-time security incidents using SIEM tools (Google Chronicle, Splunk) and conducted proactive threat hunting with the MITRE ATTCK framework.
 - **Chronicle Rule Development:** Developed Security Use Cases in YARA L for AWS CloudTrail, Web Application Firewall, IDS/IPS.
- Deloitte and Enterprise Risk Services India Pvt Ltd** Bengaluru, India
• *Technology Intern - Cyber Security* Jan. 2022 - April. 2022
 - **Encryption Projects:** Implemented a Data protection framework using HashiCorp Vault, Thales CTM, and Fortanix for multiple international clients, emphasizing cryptography.

PROJECTS

- **Forecasting Power Production of Windfarms:** Developed a web API to forecast wind farm power output (6, 12, and 24-hour horizons). Utilized machine learning models like XgBoost, LSTM, Linear Regression trained on historical wind and weather data. Built with python Flask for a lightweight and scalable web application.
- **Heritage Asset Monitoring and Management System:** Built an IoT system to monitor temperature, humidity, and pressure, ensuring artifact preservation through real-time adjustments. Integrated cloud-based MQTT communication and a dashboard to trigger alerts and maintain optimal conditions.
- **Car Pool Application:** Developed a tool using Java-based object-oriented programming and JavaFX with the help of Scene Builder to effectively address urban transportation challenges.
- **Compression of Base calling models in Genome Sequencing:** Used methods like pruning and quantization to lower the amount of computation involved in ML Ops and reduce the size of the sequencing model, using PyTorch.

CONFERENCES

- **Speaker, PyData NYC 2024:** Delivered a talk titled "Adopting Open-Source Tools for Time Series Forecasting: Opportunities and Pitfalls" at the Microsoft Center, Times Square, NYC. Explored time series forecasting using tools like Sktime and Skforecast with a focus on Data Understanding, Preparation, and Backtesting.