Dubari Kalita

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Education

- **National Institute of Technology Silchar** — Silchar, India
  B.Tech in Electronics and Communications Engineering; CGPA: 8.13 — *2023 – 2027*
- **Gurukul Grammar School, Geetanagar** — Guwahati, India
  Class XII — 96.4% — *2021 – 2023*
- **Kendriya Vidyalaya IOCL, Noonmati** — Guwahati, India
  Class X — 96.4% — *2018 – 2020*

Experience

- **Research Intern – Deep Reinforcement Learning, IIT Guwahati** — *May 2025 – July 2025*
  Group Project — *Project Link*
  - Achieved a **95% task success rate** in **MiniGrid environments** by developing and training a **PPO-based Reinforcement Learning agent** with a **CNN policy architecture** for improved policy convergence and sample efficiency.
  - Enhanced **policy convergence efficiency** within the **Proximal Policy Optimization (PPO)** framework through **50+ hyperparameter tuning cycles**, achieving a **15% faster convergence** to optimal performance.
  - Enhanced RL performance by conducting **model evaluation, algorithm optimization**, and collaborating in a multidisciplinary research environment.

Projects

- **AQI Predictor – Air Quality Forecasting & Trend Analysis** — Project Link
  Individual Project
  - Analyzed multi-year AQI data to identify key patterns and provided **data-driven insights and forecasting outputs** supporting **environmental decision-making** and trend evaluation.
  - Achieved reliable forecasting performance (**MSE $\approx$ 444**) by cleaning **2K+ missing values**, performing **data preprocessing, feature engineering, and visualization** using Python.
- **EasyApply – Centralized Placement & Job Application Platform** — Project Link
  Group Project(Ongoing)
  - Designed and developed a **role-based web platform** to replace fragmented Facebook posts and Google Forms, enabling **admin-only job postings** with **JD PDF uploads**, branch-wise eligibility filtering, and centralized application management using **Next.js, Node.js, MongoDB, and JWT authentication**.
  - Implemented a **snapshot-based application system** allowing students to apply using multiple uploaded resumes while ensuring consistent applicant data (CGPA, branch, contact details), and built an **admin dashboard** to view, filter, and download resumes for all applicants.

Skills

- **Programming Languages:** Python, C++, C, JavaScript, HTML, CSS, MATLAB
- **Frameworks & Libraries:** Node.js, Express.js, Scikit-learn, Pandas, TensorFlow,Tailwind CSS
- **Databases & Tools:** MySQL, MongoDB, GitHub
- **Concepts:** Deep Reinforcement Learning (PPO), CNN-based policy learning, Exploratory Data Analysis (EDA), Data Cleaning, Feature Engineering, Data Visualization, Role-Based Access Control, JWT Authentication
- **Platforms:** Windows, Linux, macOS

Position of Responsibility

- **Electronics and Communications Society, NIT Silchar**
  Junior Executive — *Sept 2024 - May 2025*
  - Organized **technical workshops and hands-on sessions** for ECE students.
  - Coordinated with **faculty and industry experts** to deliver impactful lectures.
- **Entrepreneurship Cell, NIT Silchar**
  Junior Associate, Event Management — *Sept 2024 – May 2025*
  - Assisted in executing **hackathons, pitch competitions, and guest talks**.
  - Designed **student engagement strategies** to increase participation.

Achievements

- Winner — **EIC 2.0 Entrepreneurship Auction**
- Winner — **Get Hired**, Spectrum 10.0
- Qualified — **Smart India Hackathon (SIH)** 2024 (Round 1)