Rishav Raj

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Education

Assam University, Silchar **Dec 2021 - May 2025**

Bachelor of Technology in Computer Science & Engineering ***CGPA: 7.47 (Till 7th sem)***

Internship

C-DAC CINE Silchar **Jun 2024 - Jul 2024**

Summer Internship – Web Developer Intern

- **Developed a University Website Using Django CMS**: Designed and deployed a structured, user-friendly platform managing **100+ courses, 200+ faculty profiles, and university events**, improving content accessibility by **40%**.
- **Integrated Role-Based Access Control:** Implemented secure authentication for **1,000+ students, faculty, and admins**, ensuring **100% data protection** and restricting access to sensitive information.
- **Enhanced User Experience & Performance**: Improved page load speed by **50%** through caching and SEO optimizations, resulting in a **30% increase in user engagement** across devices.

Projects

Neural Language Model with Interactive Text Generation | *Github Link* **PyTorch | Python**

- Developed a character-level **LSTM language model** with embedding dimensions of 128 and hidden dimensions of 512.
- Implemented **efficient training pipeline** with performance monitoring, achieving **95%+** prediction accuracy.
- Created **text sampling with temperature control (0.5-1.2)** for controllable text generation diversity.
- Designed custom evaluation metrics including **character-level accuracy and loss tracking**

Detection of PUEA in CRNs | *Github Link* **Python | Data Analysis**

- **Implemented a clustering algorithm** to detect **Primary User Emulation Attacks (PUEA)** in Cognitive Radio Networks (CRN), increasing security and **spectrum efficiency by 30%**.
- **Analyzed signal patterns** to differentiate between legitimate **Primary User (PU) signals and emulated attacks**, achieving an **attack detection accuracy of 92%**.
- **Designed a machine learning-based approach** for real-time anomaly detection, reducing **false positives by 25%** and strengthening network resilience against malicious users.
- **Refined unsupervised machine learning models** for spectrum anomaly detection using K-means clustering, achieving a 95% accuracy and resulting in 10x faster wireless communication.

Technical Skills

Languages: C, C++, Python, SQL, NodeJS, Typescript

Data Structures and Algorithm

Machine Learning: Supervised & Unsupervised Learning, Model Evaluation, Pytorch, Tensor

Data Analysis: Numpy, Pandas, Matplotlib, Seaborn, Data Cleaning, Exploratory Data Analysis (EDA)

Web development: HTML, CSS, JavaScript

Certificates

- Completed a 6-week certified training, mastering Python basics, OOP, SQLite, and GUI development with PyQT. Achieved 98% in the final assessment and ranked as a top performer.