PRAFFUL MISHRA

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Education

SRM Institute of Science and Technology — September 2020 – May 2024

Bachelor of Technology in Computer Science and Engineering (CGPA: 9.61) — *Chennai, Tamil Nadu*

Technical Skills

- **Coursework:** Data Structures, Algorithm Analysis, OOP, DBMS, Computer Networking, Operating Systems
- **Languages:** C/C++, Python, Java, HTML/CSS, JavaScript, TypeScript, SQL
- **Frameworks:** TensorFlow, Keras, PyTorch, OpenCV, Scikit-learn, Django, Flask, React.js, Node.js
- **Tools & Cloud:** AWS, Docker, Postman, Git

Experience

Tata Consultancy Services (TCS) — Dec 2024 – Present

Systems Engineer — *Chennai, Tamil Nadu*

- Built a ML pipeline, processing 4,400 legal docs with 66% faster throughput using AWS Lambda and TypeScript.
- Modernizing legacy mainframe workloads into Java/TypeScript microservices backed by DB2.
- Developed TypeScript-based dynamic form processing across JSON, XML, and ODT with Lambda-driven payloads.

Samsung PRISM — April 2023 – September 2023

ML Intern — *Chennai, Tamil Nadu*

- Engineered a high-resolution **2500**-image dataset for object detection tasks.
- Fine-tuned ResNet-based CNN to achieve **97%** accuracy.
- Implemented Float-16 quantization, compressing model size by **80%**.

Selective Excellence Research Initiative (SERI), SRM — October 2022 – December 2023

Research Intern — *Chennai, Tamil Nadu*

- Collected and conducted in-depth analysis on a dataset of **24** unique soil samples.
- Contributed to the development of an Intensified LSTM model for rainfall forecasting, obtaining a RMSE of **0.8**.
- Co-authored an in-depth research publication that synthesized key project findings, contributing **3** unique insights.

Projects

Optimal Crop Recommendation System | *Python, SQL, JavaScript, Embedded C* — March 2023

- Developed a Compound-Ensemble model integrating **12** diverse weak classifiers, attaining **99%** accuracy.
- Genetic Algorithms for hyperparameter tuning, resulting in a **4-5%** improvement in overall accuracy.
- Validated results using TN Government data, achieving an **83%** match rate for crop selection.

Centralized Vehicle Control and Monitoring System | *Python, Embedded C* — January 2023

- Developed a lightweight ANN-based automotive safety prototype, achieving **92%** accuracy and simulating a potential **18%** reduction in crash risk.
- Filed a patent for a proprietary vehicle speed and acceleration-limiting system, designed to enhance road safety.

Achievements

- GATE Qualified-CS&IT
- SRM Academic Winner Award-24
- Project Expo 2024 - **2nd**
- Codechef - **3 star**

Research & Publications

Patents — **2**

Republic of India [Patent No. 564654] — *March, 2025*

- An AI-Driven Centralized Vehicle Control and Monitoring System and Method for Enhanced Road Safety

Republic of Deutschland [Patent No. 20 2025 101 529] — *April, 2025*

- A System for Securing Patient Data in IoT-enabled Hospitals

Publication/Conference — **2**

Springer — *Feb, 2024*

- 3rd International Conference on Recent Trends in Engineering, Technology and Business Management

ScienceDirect — *Under Review*

- Optimizing Crop Selection for Sustainable Agriculture: A Compound Ensemble Approach Integrating Machine Learning and IoT-based Sensors