TRUPT MANOJ ACHARYA

+1(929)642-6807 ◇ Linkedin ◇ Github ◇ ta2674@nyu.edu ◇ San Jose, CA

EDUCATION

New York University August 2023 - May 2025
Master of Science in Computer Engineering New York, NY

- **Achievements:** Received Academic Scholarship
- **Relevant Coursework:** Internet Architecture & Protocols, Machine Learning, Computer Vision, Big Data

SRM Institute of Science & Technology July 2019 - May 2023
Bachelor of Technology in Information Technology Chennai, India

- **Achievements:** Top 10% of the batch
- **Relevant Coursework:** Artificial Intelligence, Software Engineering, Operating Systems, Data Structures and Algorithms

SKILLS

Languages:	C++, Python, C, JavaScript, TypeScript, SQL
Systems & OS:	Linux, UNIX, Bash, memory/CPU profiling, file permissions
Web Technologies:	React.js, HTML, CSS, Node.js
Infrastructure:	Docker, Redis, AWS (EC2, S3), GitHub Actions
Tools:	Git, Emacs/VIM, SQLite, PyTest
CS Fundamentals:	Algorithms, API Design, Multithreading, Unit Testing, CI/CD, System Design

EXPERIENCE

Dassault Systèmes (3D Experience Labs) June 2024 - August 2024
Machine Learning Intern *Pune, India*

- **Engineered** an offline NLP assistant in **Python/Flask** to index 2,000+ manuals; achieved **$\tilde{9}$0%** top-1 resolution with **less than 1.5s** median latency on **Linux**.
- **Implemented** a lightweight feedback loop (**SQLite**, batch retrain) that **raised precision $\tilde{3}$0%** and kept the model aligned with new terms.
- **Hardened** reliability with **unit tests (PyTest)**, request retry/backoff, and **structured logging**; test coverage **+35%** and faster analysis.
- **Containerized & automated** CI using **GitHub Actions**; documented **API design**, data flows, and release steps to meet internal **coding standards** and reviews.

Scanpoint Geomatics Ltd December 2021 - August 2023
Software Engineering Intern *Remote*

- **Orchestrated** geospatial pipelines on **Linux** to ingest **40–60 GB/week** of **GeoTIFF/drone** imagery (tiling, CRS normalization, QC); job failures **–30%**.
- **Adapted YOLOv8/U-Net** for crop detection/segmentation over **15k+ hectares**; annotation tooling for **12k+** instances cut labeling time 20%; F1 **+22%**.
- **Published** outputs to **PostGIS** and **served** map layers via **Leaflet/QGIS**; dashboards used by **500+** officers for field validation.
- **Automated** batch jobs with **Bash** and resource checks; instrumented runtime metrics to keep memory/CPU within targets on modest compute nodes.

Cmarix July 2021 - December 2021
Software Engineering Intern *Remote*

- **Refactored React/JavaScript** frontends (code-splitting, lazy loading) to improve FCP by **$\tilde{2}$5%** and trim bundle size **$\tilde{1}$8%** across apps.
- **Authored** reusable UI modules and error-state patterns; UI-related support tickets **–30%** release-over-release.
- **Integrated** REST endpoints with robust edge handling; added component-level tests and review checklists to uplift **code quality** and **testability**.
- **Collaborated** across **10+ Agile sprints** using **Git/code reviews**; closed **50+** issues with repro steps and post-merge verification.

PROJECTS

AI-Powered Trip Planner: Project Github Link

- Built a **GPT-powered** travel assistant using **Flask**, **Redis**, and **MongoDB**, deployed on **AWS EC2** via **Docker**.
- Integrated **real-time routing** and stateful session management to support **concurrent users**.
- Reduced user planning time by $\tilde{3}$ hours through **prompt-tuning** and **feedback loops**.

Credit Card Fraud Detection System : Project Github Link Project Report Link

- Developed a **real-time fraud detection API** (Recall: **95.2%**, AUC: **0.986**) with **XGBoost** and **SMOTE** balancing.
- Built a production-ready API with Flask; latency under 1s and **SHAP-based explainability** dashboard.

Hindi Visual Speech Recognition : Project Paper

- Built a **lip-reading model** from scratch on 250+ hrs of speech video; achieved **71.4% WER**.
- Engineered a full preprocessing pipeline using **FFmpeg**, **RetinaFace**, and **SyncNet** for multimodal alignment.