Pooja Kulkarni

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Education

University of Colorado, Denver	**CO, USA**
Masters in Computer Science	*Aug 2023 – Dec 2025*

All India Shri Shivaji Memorial Society's College of Engineering, Pune	**Maharashtra, India**
Bachelor of Engineering in Electronics and Telecommunication	*Aug 2018 – May 2022*
Honors in Virtual Reality and Augmented Reality	*Aug 2020 - May 2022*

Coursework

Object Oriented Programming, Computer Networks, Operating Systems, Theory of Automata, Algorithms, Natural Language Processing and Gen AI, Advanced Computer Architecture, Computational Motor Control, Deep Learning

Technical Skills

Languages: C, C++, Python, Java, Kotlin, JavaScript

Frontend: React.js, Next.js (App Router), Angular, ShadCN UI, Bootstrap

Backend: Node.js, Flask, C#/.NET, RESTful APIs

Databases: PostgreSQL, MySQL, SQLite, Firebase, AWS, GCP, Vercel, Supabase

DevOps & CI/CD: Docker, Kubernetes, Git, GitHub, GitLab, Jenkins, AWS, GCP, Vercel, Supabase CLI

Projects

AI-Powered Blog Generator *April 2025 - May 2025*

- Built a full-stack AI **SaaS platform** using **Next.js 14 App Router, TypeScript, and OpenAI** to generate blog titles and content via streaming completions.
- Integrated **Supabase PostgreSQL** for user authentication, database storage, and **row-level security (RLS)** with role-based access control. Along with secure **APIs**, Server Actions and openai-edge-stream, designed modular UI components using **Shadcn UI**, and configured a local development environment using **Docker** with containerized Supabase for real-time blog management.

Style Text Transfer: Shakespearean to Modern English Style Transfer *Aug 2024 - Dec 2024*

- Fine-tuned an **mT5**Transformer model(**Hugging Face Transformers**) to translate Shakespearean English into Modern English along with **Selenium** for web scraping paired translations and applied data augmentation techniques like back-translation.
- Achieved a training loss of 0.3453 and evaluated results using **BLEU** and **BERTScore**. Deployed a **Flask-based web application** with a structured **SQLite** backend, incorporating a modular pipeline for data preprocessing, augmentation, and Transformer model inference

Optimising Task Scheduling: DRR Algorithms in Microkernel OS on x86 *Jan 2024 - May 2024*

- Implemented Dynamic Round Robin CPU scheduling algorithms on a Microkernel-based **Operating System** running on x86 architecture using **C** and **Assembly Language**
- Compared Optimal (Manhattan Distance-based), Improved, and Adaptive scheduling by evaluating metrics such as turnaround time, waiting time, and response time to analyze efficiency and responsiveness

Work Experience

Associate Consultant, Bristlecone *April 2022 – March 2023*

- Designed and implemented scalable supply chain software solutions using Java and XML, enhancing EDI transaction efficiency across suppliers, 3PLs, and retailers while reducing data errors by 15% and improving processing speed by 10%
- Led client meetings to gather and refine software requirements, ensuring seamless integration of complex EDI document formats (940, 945, 850, 856, 810) through XML-based protocols.

Research Publications

Remote Sensing Based Crop Monitoring System, IEEE TENSYMP 2022 *May 2022*

- Developed a **Python application** using **Sentinel-2 satellite API** to compute **NDVI vegetation indices** for crop health monitoring. Integrated geospatial data visualization and field survey insights to support precision farming.
- Extended the system by intergrating **machine learning** with Sentinel-2 imagery to compute advanced vegatation indices (NDVI, NDRE, MSAVI) and trained predictive models using historical data from Yavatmal and Talegaon to classify crop conditions and forecast stress zones

Link: https://ieeexplore-ieee-org.aurarialibrary.idm.oclc.org/document/9864416

Achievements And Leaderships

- Winner of Smart India Hackathon 2019, Hardware Edition and Finalist of Smart India Hackathon 2020, Software Edition
- CITP Student Placement Coordinator - March 2021 to May 2022
- Participated in multiple hackathons & competitions like SIH, IBM Call for Code, Swadeshi Microprocessor Challenge