Anjali Rai

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PROFESSIONAL SUMMARY

- Graduate student specializing in software engineering with expertise in backend development, AI/ML, and data science. Proficient in Python, Java, and C++, with experience in developing scalable APIs, designing relational databases, and integrating retrieval-augmented generation (RAG) workflows. Skilled in real-time data processing, containerization, and hardware-software integration.

EDUCATION

California State Polytechnic University Pomona — Pomona, CA, USA
Master's in Computer Science — *Expected May 2025*

Sikkim Manipal Institute of Technology — Sikkim, India
B.Tech in Computer Science and Engineering — *May 2018*

TECHNICAL SKILLS

Programming Languages: Python, Rust, C++, Java, JavaScript
Libraries and Tools: TensorFlow, PyTorch, Scikit-learn, FastAPI, SQLAlchemy, ROS2, Kubernetes, Linux, Git, PostgreSQL, FAISS, Docker
ML Architectures: CNN, YOLO, Transformers (BERT, LSTM), RNN, Retrieval-Augmented Generation (RAG)

WORK EXPERIENCE

Intern — **January 2025 - Present**
Quantum Pulse Consulting

- Backend Development: Working on RESTful APIs and database schemas for user and project management.
- RAG Pipeline: Developing retrieval-augmented generation workflows for document search and query answering.
- Agile Practices: Actively participating in sprint planning, daily standups, and retrospectives to support project goals.
- Collaboration: Coordinating with teams to integrate backend functionalities with project requirements.
- Project Demonstration: Preparing to present progress and deliverables during bi-weekly reviews to stakeholders.

Research Assistant, Autonomous Vehicle Lab
California State Polytechnic University Pomona, CA, USA — *2024*

- Developed camera-based road segmentation algorithms using ROS2, Linux, and Python.
- Implemented real-time road and sidewalk detection systems.

Business Administrator
Jay Hari Shiv Ganga Engineering, Durgapur, India — *2019 - 2023*

- Optimized sales, inventory, and worker disbursements through data-driven decision-making.
- Collaborated cross-functionally to ensure efficient operations and resource allocation.

Software Development Intern
Keysight Technologies, Kolkata, India — *2018*

- Converted Tcl scripts to Python for enhanced functionality, improving maintainability and speed.
- Developed software-hardware integration solutions for efficient test automation.

PROJECTS

- **Viral Cascade Prediction on Darknet Forums (Master's Thesis)** - Built a ML framework for predicting malicious thread virality using structural, temporal, and community-based features, achieving an F1-score of 0.70.
- **Facial Expression Recognition (PyTorch Kaggle Challenge)** - Developed a neural network for facial expression classification, achieving 73% accuracy.
- **Obesity Classification** - Predicted obesity levels using Random Forest and SVM with extensive data preprocessing and feature engineering.

EXTRACURRICULAR ACTIVITIES

- **Society of Women Engineers** – Active Member
- **Lesbians Who Tech** – Attended Conferences in 2024
- **GHC 2024 Scholar** – Grace Hopper Celebration
- **AnitaB.org Volunteer** – June to Dec 2024