Rujula Uday More

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EDUCATION

Oregon State University, Corvallis, OR — **Sep 2023 – Jun 2025**
Master of Computer Science (AIML Specialization) — GPA: 3.88

Savitribai Phule Pune University, Pune, India — **Aug 2019 – Jul 2023**
Bachelor of Technology in Information Technology — GPA: 9.37/10.00

SKILLS

Programming Languages: Python, SQL, C, C++, HTML, CSS, JavaScript, React
Machine Learning: Deep Q Networks (DQN), Neural Networks, CNNs, RNNs, RAG, Graph Neural Networks (GNNs)
AI & Data Science Tools: PyTorch, TensorFlow, Google Colab, Scikit-learn, OpenCV
Data Analysis & Visualization: Tableau, Power BI, Git, Pandas, NumPy, Matplotlib
Cloud & Platforms: AWS (EC2, S3), Google Cloud, Docker, GitHub, CI/CD Pipelines
Extra-curriculars PR lead for the Indian Student Association(OSU), led a Hip-Hop Dance Crew for 4 years.

PROFESSIONAL EXPERIENCE

Research Assistant, Oregon State University — **Jan 2025 – Present**
- Spearheaded the development and research of an AI powered mobile application for avocado ripeness detection, integrating TFLite-optimized CNN for efficient, real-time, on-device inference with minimal latency.
- Engineered an image data processing and augmentation pipeline using OpenCV for a machine learning model to boost accuracy.
- Developed and trained deep learning models to classify avocado (ripe vs. unripe) and perform regression on ripeness level.
- Experimented with ResNet, MobileNet, UNet, and SqueezeNet; accomplished highest R^2 score of 0.96 with EfficientNet.
- Converted CNN models to TensorFlow Lite, reducing size while preserving accuracy, and deployed in a mobile application.

Research Assistant, Oregon State University — **Sep 2024 – Jan 2025**
- Devised ML pipeline for ripeness classification using high-dimensional Raman spectroscopy data, attaining 94% accuracy.
- Interpolated Raman spectroscopy data to denoise and align spectra; addressed class imbalance with SMOTE.
- Optimized SVM models for F1-score (F1 = 0.75), outperforming CNNs on limited spectral data through better generalization.

Research Intern, Yuan Ze University (Taiwan) — **Feb 2023 – Jun 2023**
- Defined state and action spaces for a ground robot navigation task with discrete movement controls (front, back, left, right).
- Incorporated obstacle interactions to engineer a custom reinforcement learning environment for navigation training.
- Implemented a reward function that encouraged correct directional progress toward the goal.

Web developer Intern, SISL — **July 2021 – Sep 2021**
- Designed and developed the frontend of an e-commerce website using React, HTML, CSS, and JavaScript, delivering a responsive and scalable interface that enhanced user experience.
- Orchestrated core features including product listings, a shopping cart, and responsive design ensuring smooth user interaction.
- Collaborated with product managers to align features with business requirements and improve customer engagement.

PROJECTS

Capstone Project (Hewlett Packard)
- Created an AI-powered printer configuration assistant that automated HP's PageWide industrial printers valued in millions.
- Designed core AI logic combining LLMs, BM25 retrieval, and rule-based reasoning (via MCP protocol), replacing manual setup with automated recommendations.
- Devised a LLM + OpenCV pipeline to extract structured data from diverse PDF layouts, achieving 84% F1-score in field extraction.
- Optimized the retrieval pipeline to achieve 78% Top-1 accuracy and 99% Top-10 accuracy across 1,020 benchmark queries.

DialogueLLM: Context and Emotion Knowledge-Tuned LLM for Emotion Recognition
- Fine-tuned a **Large Language Model (LLM)** using **Low-Rank Adaptation (LoRA)** on a dataset of 24,304 emotionally labeled utterances across multi-modal formats; enhanced contextual awareness for conversational emotion recognition.
- Improved user response relevance in subjective testing by embedding **emotion-aware memory representations** and aligning predictions with **conversation dynamics**.

RoomieBoard
- Built and deployed a full-stack roommate-matching platform using Next.js, Supabase, and Postgres, with secure authentication.
- Developed core functionality for roommate discovery, contact requests, and messaging, supported by a relational schema.
- Programmed profile creation, editing, and search/filter features, with visibility controls to enhance user privacy.
- Constructed a messaging system with persistent chat history stored in Postgres, integrating a responsive chat UI and enabling real-time updates for connection requests and messaging.