Tejas Raman

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Education

University of Texas at Dallas Dallas, TX

Bachelor of Science in Computer Science *August 2024 - May 2027*

GPA: 3.73

Honors and Scholarship(s): Academic Excellence Scholar

Relevant Coursework: Computer Science 2, Discrete Mathematics for Computing, Data Structures and Algorithms, Linear Algebra, UNIX Programming

Experience

Artificial Intelligence Society Mentee January 2025 - May 2025

The University of Texas at Dallas *Richardson, TX*

- Collaborated with a team of 5 to develop TaskMasterAI, an AI-powered academic assistant that generates flashcards and quizzes from syllabi using a RAG (Retrieval-Augmented Generation) pipeline
- Utilized GitHub branches and issues to efficiently assign, track, and merge tasks across the team, streamlining development workflows and enabling parallel development on the app's full-stack components
- Co-created and delivered a final presentation detailing our tech stack, RAG architecture, and application workflow to a panel of 5 industry judges; placed 2nd out of 13 projects for best use of AI to enhance student productivity

Projects

TaskmasterAI | *React, TailwindCSS, Node, Express, MongoDB, RAG, Open AI* January 2025 - Present

- Collaborated with frontend team to integrate a Node.js/Express backend with a React frontend, utilizing Axios for seamless, real-time RESTful API communication and efficient data handling with less than 2ms delay
- Developed a syllabi parsing agent using a RAG AI model, reducing document chunking and vector embedding latency from 500ms to 2ms, improving real time user experience.
- Designed and implemented efficient MongoDB CRUD operations for storing and retrieving syllabus and task data, achieving sub-5ms upsert times when integrated with the ReactJS frontend

ElevAIte | *React, Node.js, RAG, TailwindCSS, Pinecone DB, Express, MongoDB, JwT, Figma* May 2025

- Created a Personal AI Advisor capable of interpreting natural language to create tasks and transactional data with 95% accuracy using cosine similarity on Pinecone vector embeddings for context
- Developed a task and finance management system using the MERN stack to monitor assignments, bank transactions, internship deadlines, and schedules with fast 1ms upsert times by utilizing MongoDB
- Reduced Gemini API token usage by 80% and cut query latency to 4s by optimizing a custom RAG AI pipeline with a Pinecone Vector Store.

StyleScan | *Python, Resnet50, PyTorch, OpenCV, matplotlib, NumPy, Pillow (PIL)* July 2025

- Developed a deep learning model using ResNet-50 to classify clothing images into 15 distinct categories, achieving an F1-score of 0.78 and 57% validation accuracy on a clean preprocessed dataset
- Leveraged Grad-CAM to generate visual heatmaps highlighting influential image regions, enhancing model visualization and improve debugging process
- Created a complete ML pipeline using PyTorch, OpenCV, and matplotlib, including preprocessing, training, evaluation, and visual analytics for clothing image data

Technical Skills

Programming Languages: Java, Python, C++, C#, JavaScript, Typescript, HTML/CSS
Frameworks: React/ReactNative, Node.js, Flask, Express.js, Resnet, YOLOv9, TailwindCSS, MongoDB, RESTful API
Tools: Github, VS Code, Visual Studio, IntellIJ, Eclipse, PyCharm, C-Lion, Figma
Libraries: Pandas, NumPy, Matplotlib, PyTourch, TensorFlow, Scikit-Learn, PyTorch