Tejas Raman

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EDUCATION

University of Texas at Dallas — Dallas, TX
Bachelor of Science in Computer Science, GPA: 3.73 — *2024 – 2027*

- Academic Excellence Scholar
- Relevant Coursework: Computer Science 2, Discrete Mathematics for Computing, Data Structures and Algorithms, Computer Architecture, Linear Algebra, UNIX Programming

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, TypeScript, C++, Java, C#, HTML/CSS, LaTeX
Web Development: Full-Stack Development (MERN), React/React Native, Node.js, Express.js, Flask, TailwindCSS, RESTful APIs
Authentication: JWT, OAuth 2.0
Machine Learning & AI: PyTorch, TensorFlow, Scikit-Learn, ResNet, YOLO, OpenCV, CNN-based image analysis
Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn
Databases: MongoDB, MySQL, Pinecone
Developer Tools: GitHub, VS Code, IntelliJ, Eclipse, Vercel, PyCharm, CLion, Figma, TeXworks

PROJECTS

TaskMasterAI | *React, Express, MongoDB, RAG, Gemini API* — January 2025

- 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.
- Co-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 | *RESTful APIs, React, Express, RAG, Pinecone, MongoDB, Gemini LLM* — 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 awareness
- Built a RESTful API service with Express enabling users to get API keys and securely update academic and financial data via GET/POST routes, and utilize the Personal AI Advisor in their own app
- Reduced Gemini NLP API token usage by 80% and cut querying latency down 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 CNN model using ResNet-50 to classify clothing images into 13 distinct categories, achieving an F1-score of 0.83 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

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 the users inputed syllabus
- Utilized GitHub branches and issues to efficiently 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