Arjun Kantamsetty

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Education

Tufts University Medford, MA

Bachelor of Arts in Computer Science, Minor in Mathematics *Expected May 2025*

- GPA: 3.6
- Relevant Coursework: Algorithms, Data Structures, Machine Learning, Probability, Statistics, Machine Structure and Assembly Language Programming

Experience

Undergraduate Research Assistant May 2024 – Present

Tufts University *Medford, MA*

- Engineered a Retrieval-Augmented Generation (RAG) model to streamline evidence-based persuasive writing, empowering writers with precise and compelling argumentation tools.
- Achieved a 25x speedup in RAG processing time by implementing batching, chunking, and testing different combinations of embeddings models, LMs, and vector databases.

Undergraduate Research Assistant Oct. 2022 – Oct 2023

Tufts University *Medford, MA*

- Developed a Support Vector Machine (SVM) model using Python and scikit-learn to classify chess puzzles by difficulty, optimizing hyperparameters to achieve 85% accuracy.
- Conducted Linear Mixed-Effects Regression (LMER) and ANOVA analyses on EEG data using R, interpreting and summarizing findings in a peer-reviewed paper awaiting publication in the ACM CHI conference.

Frontend Intern May 2022 – Aug. 2022

Kairos Technologies *Las Colinas, TX*

- Increased traffic to clients' websites by 30% on average through a comprehensive upgrade of site features given detailed client feedback and user behavior analysis.
- Collaborated with engineers and designers to develop innovative features and optimize website layout, enhancing user engagement and functionality.

Projects

PokeAI | *OpenAI, Hugging Face, HyperDB, Python* Jul. 2024 – Present

- Developed an end-to-end RAG pipeline to accurately answer queries on Pokémon behavior, enhancing data retrieval and response accuracy.
- Reduced response time by 95% by converting inputs and outputs in graph structure for more specific answers.

JumboCode — Lantern Club | *Prisma, Tailwind CSS, MongoDB, TypeScript* Sep. 2023 – May 2024

- Led the team of backend developers in building a comprehensive website for an STS magazine at Tufts, meeting editorial and user requirements.
- Boosted attendance at in person meetings by 50% and submissions to the magazine by 20% through strategic improvements and marketing through JumboCode program.

movierecs | *Python, scikit-learn, Pandas, Matplotlib* Apr. 2024 – May 2024

- Built a recommendation system combining content-based and collaborative filtering, using SVD-derived vectors and additional features, and evaluated it with the AUC score for optimized recommendations.
- Wrote comprehensive documentation and implemented a robust setup for maintaining code quality, resulting in improved codebase consistency.

arganalyzer | *Hugging Face, PyTorch, Flask, HTML, CSS* May 2024 – Jun. 2024

- Coded an application to leverage a pre-trained BERT model to evaluate and score the quality of arguments.
- Authored comprehensive documentation to ensure ease of use and seamless onboarding for future developers.

Technical Skills + Interests

Languages: Python, C++, JavaScript
Frameworks: Flask, React, Prisma
Libraries: PyTorch, Pandas, Matplotlib, scikit-learn
Interests: Chess, Poker, Bhangra