Akhil Gunda

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Education & Honors:

University of Maryland College Park, MD
College of Computer, Mathematical, & Natural Sciences Expected: December 2025
Bachelor of Science in Computer Science GPA: 3.84/4.0
Minor in Technology Entrepreneurship and Corporate Innovation

Relevant Coursework: Object Oriented Programming I and II, Calculus I and II, Discrete Math, Probability and Statistics, Linear Algebra, Computer Systems, Organization of Programming Languages, Algorithms I & II, Database Design, Web Development, Advanced Data Structures, Data Science

Honors: Computer Science Honors Program, Southern Management Leadership Program Scholar, MC Early College Program, MC Leads Leadership Badge, STEM Scholar, Dean's List, Phi Theta Kappa, Pepco Scholar

Technical Skills:

Programming Languages: C/C++, Python, Java, Ocaml, Rust, SQL (Postgres), HTML/CSS, Javascript, R, MIPS Assembly
Frameworks & Libraries: JavaFX, JUnit, React, Node.js, Pandas, Numpy, Matplotlib, Scikit-learn, Tensorflow, MongoDB, OpenAI API, Gradio, PyPDF, Requests, Python-dotenv
Developer Tools: Git/Github, Linux/Unix, Jupyter Notebook, GDB, LaTeX, pgAdmin, Docker, Bash/Shell Scripting, UV Package Manager

Personal Projects:

AI Agent Resume Representative: Intelligent Chatbot for Professional Networking

Python | OpenAI API | Gradio | PDF Processing | Environment Management

- Developed an intelligent AI agent that represents a candidate by analyzing their resume and LinkedIn profile, demonstrating advanced natural language processing and document parsing capabilities.
- Implemented a sophisticated chat interface using Gradio framework that enables real-time conversations with potential employers or clients, showcasing full-stack development skills.
- Built a robust PDF processing system using PyPDF library to extract and parse resume content, enabling the AI to provide accurate responses based on actual candidate information.
- Integrated OpenAI's GPT-4 API with custom function calling capabilities to handle user interactions, record contact information, and track unanswered questions for continuous improvement.
- Designed a notification system using Pushover API to capture user engagement and potential leads, demonstrating business intelligence and lead generation capabilities.
- Created a modular, maintainable codebase with proper environment variable management and dependency handling using modern Python packaging tools.

Advanced B+ Tree System: Enhancing UC Berkeley Legacy Code for Scalable Data Management

Java | Maven | Docker | IntelliJ | JUnit *August - December 2024*

- Extended a legacy B+ tree implementation originally developed at the University of California Berkeley, showcasing the ability to integrate with and improve existing codebases.
- Developed a robust B+ Tree data structure with dynamic node operations (insertion, deletion, bulk loading) for optimized data storage and retrieval.
- Implemented precise node serialization/deserialization to enable persistent, file-based data management.
- Designed a custom iterator with advanced features including range queries, bounds filtering, and record limiting to enhance query performance.

Reddit Bot Analysis and Classification: Uncovering the Impact of Automated Accounts on Social Media

Group Project | Python | Machine Learning | Reddit API | Data Analytics | Jupyter Notebook *January - May 2024*

- Collaborated on a comprehensive research project, co-authoring both a detailed research report and a presentation to investigate the influence of Reddit bots on social media dynamics.
- Engineered data extraction tools using the Reddit API to capture key user metrics—including comment karma and moderator status—to inform robust feature engineering.
- Implemented and compared machine learning models: Skowronski 2019's decision tree classifier achieved 91.7% accuracy on the test set, our random forest model reached an impressive 98.9% accuracy, significantly enhancing bot detection rate.
- Delivered actionable insights on bot behavior and its potential role in the spread of misinformation, contributing to broader discussions on social media integrity.