Yashwanth Raj Varadharajan

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GitHub | LinkedIn | Portfolio | Google Scholar

SUMMARY

Software Engineer specializing in full-stack development and AI integration. Proven track record of designing, building, and deploying scalable web and mobile applications using Java/Spring Boot, React/Node.js, and SwiftUI. Expertise in leveraging Generative AI (GPT-4o, Llama 3, RAG) to create intelligent, user centric solutions. Committed to translating complex business requirements into high quality, maintainable, and reliable software in fast paced Agile environments.

SKILLS

- **Programming Languages:** JavaScript, TypeScript, Java, Python, SQL, SwiftUI, HTML/CSS
- **Frameworks & Libraries:** Node.js, Express.js, Spring Boot, LangChain, Maven, React, SwiftUI, Tailwind CSS, Bootstrap Scikit-learn, Pandas, NumPy, Hugging Face
- **Databases & Data:** PostgreSQL, MySQL, Firebase, ChromaDB, Oracle
- **Cloud & DevOps:** AWS, Docker, CI/CD, Jenkins, GitHub Actions, Git, GitHub
- **AI Platforms & Concepts:** OpenAI API (GPT-4o), Google AI (PaLM 2), Llama 3, Groq, Retrieval Augmented Generation (RAG), Prompt Engineering
- **Developer Tools:** Jira, Figma, Postman, Apache JMeter, Power BI, Streamlit, Xcode, MATLAB
- **Development Practices:** Agile/Scrum, RESTful APIs, Test Driven Development (TDD), Code Reviews, API Integration

EXPERIENCE

Chicago Education Advocacy Cooperative **July 2025 – Present**
Software Developer

- Engineered an AI powered Resume Builder for youth, leveraging a stack of React.js, Tailwind CSS, and Express.js to integrate with the OpenAI GPT-4o API for automated resume generation.
- Designed and implemented RESTful APIs for data processing, integrated Firebase Authentication for secure user management, and enabled download to PDF feature using jsPDF.
- Oversaw the complete Software Development Life Cycle (SDLC), from initial requirements gathering and specification documentation to deployment and iterative maintenance.
- Led UI/UX design efforts using Figma, creating cohesive, user friendly interfaces by incorporating feedback from developers, legal experts, and community stakeholders.
- Managed version control using Git/GitHub and established deployment pipelines to GitHub Pages, supporting an Agile workflow with daily standups and sprint planning.

Parkli **March 2024 – December 2024**
Software Developer

- Developed full-stack features for a parking reservation application using SwiftUI, Spring Boot, and Firebase, engineering scalable, high-performance solutions and secure backend APIs.
- Spearheaded a team of 7 developers in designing and architecting the iOS front end, establishing a scalable SwiftUI codebase and ensuring consistent, high quality design execution.
- Designed high fidelity wireframes and prototypes in Figma and translated them into modular, reusable, and interactive SwiftUI components to deliver a polished and intuitive user experience.
- Implemented CI/CD pipelines using Jenkins and GitHub Actions to automate build, testing, and deployment workflows, significantly accelerating development cycles and improving release reliability.
- Drove the adoption of Agile methodologies and engineering best practices, leading sprint planning, defining requirements with cross functional teams, and enforcing code quality through rigorous code reviews.

Access Healthcare Services **April 2023 - June 2023**
Associate Software Developer

- Contributed to the development Echo Talk, a responsive call center web application using React.js, and Integrated RESTful APIs to ensure agents had real time access to patient records, significantly improving support workflows.
- Facilitated the integration of machine learning based voice analysis models into Echo Talk, enabling live transcription and actionable insights during customer interactions to enhance service accuracy.
- Wrote complex automation workflows within Echobot, a proprietary RCM automation suite (analogous to UiPath), directly achieving a 40% reduction in RCM process implementation time.
- Supported the RParser project, a machine learning system for resume parsing and classification that automatically categorized candidates into seven predefined roles, streamlining recruitment operations.

PROJECTS

AI Powered LinkedIn Post Generator **August 2025**

- Designed a personalized content generation tool that creates LinkedIn posts by analyzing user writing style and generating context aware content using the Llama 3.1 8B model hosted on Groq Cloud.
- Applied Streamlit to create a user friendly interface that captures preferences like topic and length of content, displaying AI generated posts instantly.
- Structured a modular two stage architecture separating data enrichment and content generation to improve flexibility and debugging.
- Enabled style replication by extracting linguistic patterns from past posts, ensuring output remained consistent with the user's voice and themes.
- Managed API integrations securely using dotenv for environment variables and leveraged Groq's low latency infrastructure for efficient inference.

Cryptoplace Application **April 2025**

- Created a responsive web dashboard using React and Vite to display live cryptocurrency data, integrating the CoinGecko API for real time price, trend, and volume updates.
- Enabled seamless navigation using React Router DOM, enhancing the user experience and maintaining a clean single page application structure.
- Integrated interactive visualizations with React Google Charts to display market trends and price movements in an intuitive format.

Netflix Clone **January 2025**

- Built an interactive Netflix clone using React and Firebase, featuring user authentication, dynamic content display, and real time data management via Firestore.
- Devised a fully responsive UI with adaptive layouts to ensure seamless usability across all devices prioritizing accessibility and consistent user experience.
- Integrated the TMDB API to fetch and render movie titles, posters, and trailers, replicating the core functionality of Netflix's content discovery experience.

PUBLICATIONS

ML based side channel power attack analysis of VLSI implementations **December 2022 - May 2023**

Advances in Microgrid Technologies (pages 185 - 213). Elsevier. DOI: 10.1016/B978-0-443-22187-3.00008-4

- Conducted a machine learning based side channel power attack analysis on VLSI implementations, leveraging Random Forest algorithms to identify vulnerabilities by analyzing hardware emissions like power usage.
- Applied custom and ASCAD datasets to assess encryption strength against ML based attacks. Results demonstrated robust security of custom implementation, while revealing vulnerabilities in the ASCAD dataset that enabled successful key recovery.

EDUCATION

The George Washington University, School of Engineering & Applied Science (SEAS) **Washington, DC, USA**

Master of Science in Computer Science

Vellore Institute of Technology, School of Electronics Engineering (SENSE) **Tamil Nadu, India**

Bachelor of Technology in Electronics and Computer Engineering