

Yashwanth Raj Varadharajan

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[GitHub](#) | [LinkedIn](#) | [Portfolio](#) | [Google Scholar](#)

SUMMARY

Software Engineer with a strong background in full stack and AI powered application development. Proven ability to design and deliver scalable web and mobile solutions using technologies including React, Firebase, PostgreSQL, SwiftUI, and Node.js. Experienced in leveraging modern Gen AI tools such as GPT-4o and Llama 3 to build personalized, real time tools for content generation and user engagement. Holding a Master's degree in Computer Science, passionate about delivering intuitive, high impact products while mastering new technologies and solving complex challenges.

SKILLS

- **Programming Languages:** JavaScript, HTML, CSS, Python, SQL, SwiftUI, R.
- **Tools and Frameworks:** Node.js, React, Express.js, Tailwind CSS, Bootstrap, Streamlit, MySQL, RESTful APIs, PostgreSQL, Firebase, Git, GitHub, Power BI, Postman, Microsoft Excel, Oracle, UI/UX Design, AWS, MATLAB, Xcode.
- **Artificial Intelligence:** OpenAI API (GPT-4o, GPT-4), Google AI (PaLM 2, Text Bison), Llama 3, Retrieval Augmented Generation (RAG), Prompt Engineering, Hugging Face, LangChain, Groq, ChromaDB (Vector Database)
- **Machine Learning:** Linear Regression, Decision Tree, Logistic Regression, Random Forests, Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN)
- **Development Practices:** API integration, Agile methodologies, Continuous Integration/Continuous Deployment (CI/CD), code reviews and quality assurance
- **Soft Skills:** Critical Thinking, Leadership, Creativity, Time Management, Networking, Adaptability, Communication.

EXPERIENCE

Chicago Education Advocacy Cooperative

July 2025 – Present

Software Developer

- Designed a responsive AI powered Resume Builder using React.js, and jsPDF, enabling users to generate professional resumes through a streamlined web interface.
- Integrated GPT-4o via the OpenAI API to generate structured, professional resumes from user submitted data, along with API interactions using Axios and authentication through Firebase Auth.
- Collaborated in developing a scenario driven web tool that educates users on legal rights using JSON-based decision trees and responsive UI design.
- Took part in Agile development practices, including daily stand ups, sprint planning, and retrospectives to maintain progress and adapt to feedback.
- Contributed to version control and deployment processes using Git, GitHub and Replit to ensure smooth collaboration and timely releases.

Parkli

March 2024 – December 2024

Software Developer

- Oversaw front end architecture for an iOS based parking reservation app, leading a team of 7 developers to build a scalable SwiftUI codebase and ensure consistent, high quality design execution.
- Built the UI from ground up in Figma and translated high fidelity wireframes into modular, reusable SwiftUI components, delivering a cohesive and responsive user interface.
- Engineered backend integration using Firebase to implement secure user authentication, real time data handling, and robust cloud storage capabilities.
- Implemented CI/CD pipelines with GitHub Actions, automating build and deployment processes to accelerate development cycles and ensure release reliability.

Access Healthcare Services

April 2023 - June 2023

Associate Software Developer

- Collaborated on the development of Echobot, an RPA suite for Revenue Cycle Management, contributing to a 40% reduction in implementation time through streamlined workflows.
- Assisted in developing Echo Talk, a React.js based web application for call center operations, integrating RESTful APIs to provide real time access to patient records and improve agent productivity.
- Facilitated the integration of ML based voice analysis models into Echo Talk, enabling live transcription and actionable insights during customer interactions.
- Contributed to the RParser Project by assisting in the development and training of machine learning models for resume parsing and role classification across seven predefined categories.

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.
- Implemented 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.
- Implemented 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

- Engineered 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.

Supplier Management Web Application

May 2024

- Deployed a supplier management application using Oracle APEX, enabling streamlined tracking of supplier profiles, product inventory, and order history within a centralized SQL database.
- Worked on a user friendly interface and applied database optimization techniques to improve data accessibility, reduce query times, and simplify record updates.
- Modeled an efficient ERD and schema structure to support scalable data relationships and enhance overall supply chain visibility for grocery operations.

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](https://doi.org/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.
- Implemented 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