

Yashwanth Raj Varadharajan

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

TECHNICAL SKILLS

- **Programming Languages:** JavaScript, SwiftUI, HTML, CSS, Python, SQL, R.
- **Tools:** Power BI, Microsoft Excel, Oracle, git, GitHub, UI/UX Figma, MATLAB, NodeJS, Xcode, React, PostgreSQL.
- **Machine Learning:** Regression, Classification, NLP, CNN, and Computer Vision.
- **Soft Skills:** Critical Thinking, Leadership, Creativity, Time Management, Networking, Adaptability, Communication.

RELEVANT WORK EXPERIENCE

Parkli

iOS Software Developer

Redwood City, California

March 2024 - December 2024

- Leading a team of 7 in building a parking reservation app, overseeing UI/UX design in Figma to SwiftUI software implementation, and making key architectural decisions for scalability.
- Developing full-stack iOS solutions using SwiftUI, Firebase, and Docker, implementing secure user authentication, backend API services, and optimizing data retrieval with Core Data.
- Streamlining development processes by establishing CI/CD pipelines using Jenkins and GitHub Actions, ensuring efficient version control and maintaining high code quality.

Access Healthcare Services

Associate Developer Intern

Chennai, India

April 2023 - June 2023

- Acquired practical insights in Software Engineering, Machine Learning and Robotic Process Automation while collaborating with team on Echo Applications, resulting in 50% reduction in RCM implementation time.
- Developed and automated Echobot, a comprehensive RCM process automation suite capable of creating on-the-go automation use cases and seamlessly integrating with various industry-leading automation frameworks.
- Played a pivotal role in the R Parser project, leading model development and training process to extract resumes and classify into 7 predefined roles aligning with candidate's profiles.

Finlatics

Business Analyst Intern

Mumbai, India

October 2022 - December 2022

- Leveraged dynamic analytics tools including Power BI and Microsoft Excel to extract actionable insights into consumer behavior and product preferences, empowering data-driven decision-making within organization.
- Concluded a project centered on analysis of consumer behavior data related to smartphone features, provided insights and actionable recommendations to potentially achieve a CSI score exceeding 9.

PROJECTS

BetterRest iOS Application

June 2024 - August 2024

- Engineered an iOS app leveraging ML algorithms like Random Forest, Decision Tree and Linear Regression to analyze sleep data, achieving an RMSE of 170 seconds for optimal sleep time predictions.
- Streamlined data model size to 545 bytes using Create ML in Xcode, efficiently capturing key relationships between variables for fast and accurate predictions.

Crop Disease Detection using Machine Learning

September 2021 - December 2021

- Collaborated with a team of three to implement a model to differentiate between healthy and disease-afflicted crops, while concurrently classifying specific disease among a set of 6 well-known crop diseases.
- Conducted a comprehensive comparative analysis among three prominent CNN architectures - ResNet50, InceptionV3, and ResNet152V2. Assessed performance through application of accuracy and model loss metrics.

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

Washington, DC

Master of Science in Computer Science

- CGPA: 3.8/4

Vellore Institute of Technology

Chennai, India

Bachelor of Technology, Electronics and Computer Engineering

- CGPA: 3.6/4