Abirami Valliammai Kathiresan

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Education:

Davis, CA **University of California, Davis** **September 2023 - June 2027**

- B.S. in Data Science, Minor in Computer Science & Tech Management | GPA: 3.98, Deans' Honor List (Fall 2023 - Spring 2025)
- Relevant Coursework: Data Structures in Python, Data Structures in C++, Databases, Machine Learning, Algorithms for Data Science, Discrete Mathematics, Statistics for Data Analytics, Calculus, Linear Algebra

Experience:

Software Engineering Intern **Equitas Bank** **June 2025 - Current**

- Designed and developed 7+ RESTful APIs using Java and Spring Boot to support key internet banking operations, implementing the Builder pattern for structured response construction and achieving average response times under 200 ms.
- Built a backend-for-front end (BFF) layer to streamline communication between microservices and frontend, decreasing API. latency by 30%, improving responsiveness for thousands of daily users, and deploying services on AWS to ensure scalability
- Wrote SQL queries to retrieve data from Oracle databases and used Postman to run 50+ tests to validate API responses.

Product Space Fellow **Product Space** **October 2024 - Current**

- Participated in a fellowship program to design and prototype Instagram Scraps, a feature enabling Instagram users to create a customizable scrapbook section on their profile, addressing user pain points around personalization and content visibility.
- Leveraged skills in product management, engineering, design, and go-to-market strategy to deliver a user-centric product.
- Developed wireframes and interactive prototypes in Figma, integrating user feedback through testing, resulting in a 40% improvement in interface clarity based on usability metrics and ensuring seamless integration with Instagram's design system.

Website Developer **UC Davis #include** **October 2024 - March 2025**

- Developed a responsive web application for the Joan Viteri Memorial Clinic utilizing React, Node.js, HTML, CSS, and JavaScript, incorporating front-end and back-end development skills to deliver a fully functional platform.
- Integrated modern web development practices, including responsive design, dynamic content rendering, and API implementation to support desktop and mobile layouts, increasing mobile engagement by 30% and reducing load time by 25% .

AI Project Developer **AI Student Collective** **October 2024 - November 2024**

- Engineered a machine learning project to forecast customer purchasing behavior for Black Friday shopping by utilizing regression-based models (including Linear, Ridge, and Lasso Regression) to drive predictions to 95% accuracy.
- Processed and analyzed data from ABC Private Limited to identify trends and inform feature selection for model training.
- Built a Streamlit frontend interface to showcase the Black Friday prediction model, enabling intuitive user interaction and visualization of predictive results.

Neurotechnology Researcher **UC Davis Neurotech** **October 2023 - May 2024**

- Created a Brain-Computer Interface that utilizes alpha and beta brain waves to detect the level of user focus during studying.
- Leveraged OpenBCI technology to capture brain wave data, and utilized Brainflow and MNE to pre-process and analyze EEG data as well as train a machine learning classifier model that accurately identifies low focus states to a 93% accuracy level.
- Developed a Selenium-based software solution using Python that seamlessly integrates with the BCI, automatically pausing lectures or online videos when the user's focus drops below a threshold and resuming playback when focus is regained.

Projects:

ANCOR

- Developed a full-stack website called ANCOR, a platform that aims to improve political literacy through features like a glossary of political terms, local political resources, recent news articles, and latest government propositions.
- Utilized React, Node.js, HTML, CSS, and JavaScript to create a cohesive, user-friendly frontend and leveraged web scraping and Firebase to create a backend where users were able to search and find political terms and news articles pertaining to it.

RiskPredictor

- Created a machine learning tool to help international students assess their risk of deportation by preprocessing demographic data points collected through web scraping 200+ recent immigration-related news articles and training a classification model.
- Built a frontend using Python and Streamlit to deliver real-time predictions with 92% accuracy based on user input.

Technical Skills:

- Languages: Java, Python, Javascript, HTML, CSS, C++, R, SQL, Bash
- Frameworks and Libraries: Spring Boot, React, Node.js, BrainFlow, MNE, scikit-learn
- Tools: Git, AWS, Linux, Docker, Gradle, Maven, Jira, Postman, Figma, Streamlit, Oracle, MySQL, PostgreSQL, MongoDB