Mirva Dudhagara

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EDUCATION

Master of Science - Computer Science, Indiana University Bloomington	**Aug 2023 – May 2025**
Bachelor of Engineering - Computer Engineering, Gujarat Technological University	**July 2019 - May 2023**

EXPERIENCE

Data Science & AI Lab, Indiana University — **July 2024 – Present**
iOS Developer

- Created MHAI-Pal, a mental health iOS application using **Swift** and the **MVVM** architecture, to passively collect sensory data and self-reported survey responses from **2,000+** students at IU and the UoA, enabling data-driven mental health insights.
- Optimized multi-threaded data collection using Grand Central Dispatch (GCD) for simultaneous data grathering, increasing processing efficiency by **20%** and reducing background execution lag by **35%**.
- Captured 10M+ data points, including health, motion, location, and Bluetooth data, by integrating **HealthKit, CoreBluetooth, CoreLocation, and CoreMotion** frameworks, ensuring seamless data collection across various sensors.
- Achieved robust data storage by implementing **AES-256** encryption with **Jetstream** and **PostgreSQL**, ensuring the protection of sensitive health data through secure storage and encryption practices.
- Integrated push notifications and custom interactive widgets to boost user engagement and designed intuitive dashboards for real-time monitoring and updates, resulting in a **30%** increase in user retention.

Hyphenova — **Oct 2024 – Dec 2024**
Software Developer - Intern

- Engineered a cross-platform app with **React Native** and **TypeScript**, maintaining **97%** crash-free sessions on both iOS and Android during development.
- Architected a scalable **RESTful API** with **FastAPI (Python)** and **MongoDB**, leveraging advanced indexing and caching to cut response times by **30%** in staging and ensure readiness for future production demands.
- Led the **SDLC** in an **Agile** environment, collaborating with QA and operations to achieve a **70%** success rate for new initiatives.

University Information and Technology Services, Indiana University — **May 2024 - July 2024**
Software Developer

- Revamped teaching.iu.edu for **400+** faculty members using **React.js, Next.js, and Tailwind CSS**, improving the website's accessibility and reducing page load time by **50%**.
- Developed an automated email service with **Node.js** and **Express**, streamlining faculty communication by sending **750+** personalized emails per month, increasing engagement by **40%**.
- Built and integrated a faculty-exclusive email archive system using **AWS DynamoDB** and **AWS Lambda**, enabling instant retrieval of past communications, reducing query latency by **60%**.

Swayam Infotech, India — **Feb 2023 - Jun 2023**
iOS Developer - Intern

- Collaborated with cross-functional teams and client to develop Sound Medicine for iOS, improving visuals using **SwiftUI** and **MVC** architecture.
- Configured Apple Pay for in-app purchases, supporting monthly and yearly subscriptions.
- Formulated and executed **100+** test cases for feature and UI validation using **XCTest**, reducing bugs in production by **35%** and improving release stability.
- Published the app on the App Store, meeting Apple's guidelines and compliance standards.

SKILLS

Programming Languages: Swift, Objective-C, Python, C, JavaScript, Java, SQL, C/C++, NodeJS, , Kotlin, HTML, CSS
Architecture Patterns: MVC, MVP, MVVM, VIPER
Database & Cloud: MySQL, MongoDB, DynamoDB, Firebase, Oracle SQL, Docker, Jira, AWS S3 Buckets, EC2, IAM, Postman
Frameworks: SwiftUI, TypeScript, NativeScript, Angular, React.js, React Native, Spring Boot
Developer Tools: Xcode, Visual Studio, Git, GitLab

PROJECTS

Event/Venue Management System

- Engineered a responsive and dynamic front-end using **ReactJS**, ensuring a seamless user experience across devices and platforms.
- Developed a highly scalable backend architecture leveraging **Node.js** and **Express**, optimizing data processing and API performance.
- Implemented CI/CD pipelines using **Docker** for containerization and Render.com for streamlined continuous deployment.

CloudShare

- Developed a secure file transfer application using React and **AWS Amplify** with 2FA authentication, implementing encrypted file storage on **AWS S3** to ensure data privacy.