Preksha Patil

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Education

Northeastern University	**Boston, MA**
Master of Science - Computer Science	*Sept 2023 – May 2025*
Visvesvaraya Technological University	**Karnataka, India**
Bachelor of Engineering - Computer Science	*Aug 2016 – Sept 2020*

Technical Skills

Programming Languages: Python, Java, SQL, HTML5, PHP, CSS, Swift(iOS), JavaScript, Golang, C++.
Frameworks and Technologies: React, Redux, Node.js, Intellij, JSON,Spring, Eclipse, Linux, Docker, Kubernetes.
Cloud Development Suite: AWS (EC2, S3, RDS, ECR, EKS, IAM), Docker, Kubernetes, Azure, GCP, Heroku.
Databases: Oracle, PostgreSQL, Cassandra, MySQL, SQLite, MongoDB, NoSQL
Methodologies: Large scale data processing, Load balancing, Networking, OOD, CI/CD, Agile, Unit Testing.

Experience

Northeastern University   **Jan 2025 – Present**
Graduate Teaching Assistant   *Boston, MA*

- **Assessed** and graded assignments and projects, focusing on **code quality**, **functionality**, and adherence to specifications, while providing **actionable feedback** to support student growth.
- **Utilized** diverse **instructional methods** to help over **500 students** master concepts across **10+ assignments**, enhancing their practical and theoretical understanding of tools like **GitHub** and **Netlify**.
- **Delivered** personalized support to students struggling with **HTML**, **CSS**, **JavaScript**, **TypeScript**, **Node.js**, **React**, and **MongoDB**, fostering a **collaborative and encouraging learning environment** that sparked academic curiosity.

Tata Consultancy Services   **Sept 2020 – May 2023**
Software Engineer   *Bangalore, India*

- **Developed and maintained scalable web applications** using **ReactJS**, **Redux**, and **JavaScript**, significantly enhancing **user experience** and overall application performance. **Designed and optimized RESTful APIs** with **Node.js**, improving **data communication efficiency** and reducing **API response time** by 20%.
- **Led the migration** of a **monolithic application** to a **microservices architecture**, improving system **scalability** by 30% and reducing downtime during deployments. This migration was supported by the implementation of **CI/CD pipelines** with **Docker**, resulting in a 40% reduction in deployment time and ensuring faster, more reliable development cycles.
- **Enhanced database performance** by designing efficient schemas in **MySQL** and **PostgreSQL**, improving **query execution speeds** by 15%, which contributed to overall application performance. Actively conducted **code reviews** and **debugging sessions** with team members to maintain high coding standards and ensure **software reliability** across the team.
- **Collaborated closely** with **cross-functional teams**, including **designers** and **product managers**, to ensure seamless integration and alignment of project requirements with technical execution, ensuring smooth **feature development** and deployment.
- **Assisted in the development** of a **Material Delivery mobile app** using **Android Studio**, ensuring **cross-platform compatibility** between **iOS** and **Android** versions, which increased the **user base** by 25% after release.

Projects

Hermony | *React Native,TypeScript, Vite, Firebase, Tailwind CSS*

- A Work-Life Harmony and Mentorship Ecosystem for Women in Tech. Won SHEHack'25 for most impactful solution.

NUSwap | *Swift, SwiftUI, Firebase*

- Developed a secure marketplace for Northeastern University students with Firebase Authentication and exclusive access using .edu emails. Designed responsive UI with SwiftUI and implemented features like item listing, advanced search, and secure messaging.

Image Manipulation and Enhancement | *Java, Swing, Java AWT/ImageIO, Design Principles*

- Developed a GUI-based (Java Swing) image processing system using Java and MVC architecture with features like color correction, splitting, and compression along with loading and saving of multiple image formats.

Kanbas | *HTML, CSS, Bootstrap, JavaScript, React, Redux, NodeJS, MongoDB*

- Developed a clone of the popular Learning Management System, Canvas, using the MERN stack. Implemented functionalities such as creating courses, assignments, and quizzes along with different interfaces for different user profiles such as students and professors.

Boston Housing Analysis | *Python, Scikit-learn, Pandas, Matplotlib*

- Performed exploratory data analysis and built regression models to predict Boston housing prices using Scikit-learn. Visualized insights with Matplotlib and Seaborn.

Social Media Management System | *Java, MySQL, JDBC*

- Developed a Java-based social media platform with MySQL integration, enabling secure authentication, profile management, content sharing, and user interactions.