

Preksha Patil

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Education

Northeastern University

Master of Science - Computer Science

Visvesvaraya Technological University

Bachelor of Engineering - Computer Science

Boston, MA

Sept 2023 – May 2025

Karnataka, India

Aug 2016 – Sept 2020

Technical Skills

Programming Languages: Python, Java, SQL, HTML5, PHP, CSS, Swift(iOS), JavaScript, Golang, C++, Bash shell scripting.

Frameworks and Technologies: React, IntelliJ, JSON, Hibernate, Spring, Snowflake, Eclipse, Linux.

Cloud Development Suite: AWS (EC2, S3, RDS, ECR, EKS, IAM), Docker, Kubernetes, Azure, GCP, Heroku.

Databases: Oracle, Postgres, Cassandra, MySQL, SQLite, MongoDB, h2.

Methodologies: Large scale data processing, Load balancing, Networking, Object Oriented Design, Unit Testing.

Experience

Northeastern University

Graduate Teaching Assistant

Jan 2025 – Present

Boston, MA

- Evaluated students' assignments and projects with a focus on code quality, functionality, and adherence to project specifications, providing constructive feedback to support their growth.
- Employed a variety of instructional techniques to help 500+ students grasp concepts for over 10 assignments, understanding GitHub, Netlify, which significantly improved their practical and theoretical knowledge.
- Provided one-on-one assistance to students struggling with HTML, CSS, JavaScript, TypeScript, Node.js, React, and MongoDB, fostering a supportive learning environment that encourages academic curiosity.

Tata Consultancy Services

Software Engineer

Dec 2020 – May 2023

Bangalore, India

- Developed and maintained scalable web applications using ReactJS, Redux, and JavaScript. This work significantly enhanced the user experience and improved overall application performance. Additionally, designed and optimized RESTful APIs with Node.js, ensuring efficient data communication between the frontend and backend systems.
- Led the migration of a monolithic application to a microservices architecture, improving scalability and reducing downtime also implemented CI/CD pipelines with Docker, resulting in a 40% reduction in deployment time and streamlined development workflows.
- Optimized database performance by designing efficient schemas in MySQL and PostgreSQL, leading to a 15% improvement in query execution speed and conducted rigorous code reviews and debugging sessions to maintain high coding standards and software quality.

Tata Consultancy Services

Systems Engineer

Sept 2020 – Nov 2020

Bangalore, India

- Assisted in development of the front end of a mobile application for Android called a material delivery app.
- Utilized Android Studio as a development environment in order to visualize the application in both iOS and Android.

Projects

🔗 NUSwap | Swift, SwiftUI, Firebase

- Developed a secure marketplace platform for Northeastern University students with Firebase Authentication to ensure exclusive access using northeastern.edu email addresses.
- Designed responsive and visually appealing UI components with SwiftUI, providing an intuitive and engaging user experience.
- Implemented core features, including item listing with images, prices, advanced search, and secure direct messaging using Firebase.

🔗 Image Manipulation and Enhancement | Java, Swing, Java AWT/ImageIO

- Built an image processing application and ensured it can perform various operations like color correction, splitting, and compression.
- Created a text-based and interactive GUI-based user interface for the program to interact with images.

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

- Developed a comprehensive Learning Management System with integrated assessment tools and real-time collaboration features, enhancing user engagement and content delivery efficiency.
- Implemented functionalities such as creating courses, assignments, quizzes, with different UI for students and professors.

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

- Implemented exploratory data analysis and feature engineering on the Boston Housing dataset.
- Built and evaluated multiple regression models to predict housing prices using Scikit-learn.
- Visualized key insights using Matplotlib and Seaborn to analyze correlations between features.