

# Malav Patel

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## EDUCATION

**Northeastern University** | GPA: 3.95/4

*Master of Science in Computer Science*

Jan. 2022 – April 2024

*Boston, MA*

**Gujarat Technological University** | GPA: 9.59/10

*Bachelor of Engineering in Information and Communication Technology*

June. 2017 – June 2021

*Ahmedabad, India*

## TECHNICAL SKILLS

**Languages:** Python, Java, C, C++, HTML, CSS, PHP, JavaScript, Kotlin, SQL, GraphQL, .NET, TypeScript, Go

**Frameworks & Libraries:** Java Swing, JUnit, Spring Boot, Flask, Django, Flutter, Cordova, Bootstrap, Express, Next.js, React

**DevOps:** Linux, Git, GitHub CI/CD, Kubernetes, Docker, AWS, SVN, PostgreSQL, GCP, Jenkins, Kafka

**Databases:** MySQL, MongoDB, PostgreSQL, Microsoft SQL Server, Oracle, Firebase

**Relevant Courseworks:** Web Development, Operating System, Data Structures, Algorithms, Advanced Networking Protocols

## EXPERIENCE

**Graduate Teaching Assistant** | 1 year 11 months

*Khoury College of Computer Sciences, Northeastern University*

May 2022 – April 2024

*Boston, MA*

- Counseled 800+ graduate students for **Program Design Paradigms** course under the guidance of Prof. Amit Shesh.
- Explained **object-oriented programming** in Java including 10+ **design patterns**, **SOLID** principles and **unit testing**.
- Displayed strong **communication** and **interpersonal** skills to troubleshoot issues and provide feedback in **code reviews**.

**Software Engineer Intern** | 8 months

*Nok Nok Labs*

Jan. 2023 – Aug. 2023

*San Jose, CA*

- Leveraged **Java Servlets** to implement a **session management system**, ensuring single-use of links for the “Forgot Password” leading to a 30% reduction in unauthorized access attempts.
- Identified a critical **bug** affecting 85% of deployment which deleted customer signup data upon removing the containers.
- Conceptualized a **Docker** volume, which was mounted on **Amazon Elastic File System** ensuring data preservation.
- Initiated **REST API** calls from App SDK to transmit location signals to the **Spring Boot** webapp with **Tomcat** server.
- Enforced **location-based server rules** for authentication, achieving a 95% success rate in preventing unauthorized access.
- Followed **Agile SDLC** to work in sprints and launch 2 new WebAuthn features for **Android** and **iOS** platforms.
- Addressed **20+** bugs linked to **UAF** and **FIDO** protocols, bolstering functionality across **application** and **cloud** domains.

**Software Engineer Intern** | 5 months

*ElysIoT*

Aug. 2021 – Dec. 2021

*San Francisco, CA*

- Architected robust **database** services and enacted **micro-functions** within **Firebase** enhancing system’s scalability.
- Adopted Firebase’s advanced **authentication mechanism**, resulting in a 50% boost in application performance.
- Engineered a push notification system using **Firebase Cloud Messaging (FCM)** and **REST API**.
- Enhanced efficiency with **caching** notification template, resulting in 25% faster notification delivery and performance.
- Refactored **Flutter**-based healthcare application modules into a unified platform, achieving simpler **UI**.

**Data Analyst Intern** | 3 months

*eClinicalWorks*

March 2021 – May 2021

*Ahmedabad, India*

- Set up **Kafka producers** to ingest data thereby revamping bug resolution processes post-EHR software release.
- Employed **Kafka Stream** application to perform data queries to identify issues leading to a 35% quicker bug resolutions.
- Integrated **Grafana** with Kafka Stream application for building dashboards and real-time monitoring of stream data.

## PROJECTS

**Car Rental System** | *Microsoft SQL Server, Tkinter*

Sep. 2023 – Dec. 2023

- Structured a **database** with **Microsoft SQL Server** triggers, procedures, and constraints that are automated.
- Added **search** and **filtering** features for consumers to locate cars that meet their needs based on a variety of parameters.
- Capitalized on **Tkinter** for frontend development along with providing functionalities like user-specific login and analytics.

**Gym Management System** | *React.js, MongoDB, Node.js, Express.js, GraphQL*

Sep. 2023 – Dec. 2023

- Spearheaded website development using the **MERN** stack that suggests diet and manages personnel.
- Pioneered the creation of a **GraphQL schema**, by defining types, queries, and mutations for seamless data interactions.
- Leveraged the **external APIs** to dynamically fetch and recommend personalized diet plans based on individual user needs.

**Adventure Board Game** | *Java, Java Swing, JUnit*

Jan. 2022 – May 2022

- Structured **MVC**-based board game supporting multiple players using 4+ **design patterns** and **SOLID** principles.
- Incorporated interactive functionalities through **Java Swing GUI**, controllable via mouse and keyboard.
- Emphasized **TDD** using **JUnit testing**, resulting in early bug detection, streamlined development, and 98% code coverage.

**Online Examination System** | *React.js, MongoDB, Node.js, Express.js, REST API, Socket.io*

Nov. 2020 – April 2021

- Directed a 3-member team in architecting a website using the **MERN** stack capable of testing different types of questions.
- Supported diverse roles and utilized **RESTful APIs** with **JSON Web Tokens** for user authentication.
- Capitalized on **Node.js** for scalability of website allowing to conduct in-class quizzes for 200+ students simultaneously.
- Integrated **WebSocket** for real-time quiz interactions for low latency due to persistent connection.