

# HARSHIL SHAH

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## Education

### Northeastern University

*Master of Science in Software Engineering Systems*

Sep 2022 - Apr 2024

*Boston, MA*

### K. J. Somaiya College of Engineering

*Bachelor of Technology in Information Technology*

Aug 2017 - Oct 2020

*Mumbai, India*

## Technical Skills

**Languages:** JavaScript, Java, EcmaScript 6, Node.js, TypeScript, SQL

**Frameworks:** Next.js, React, Redux, Material UI, Spring boot, Vue, Tailwind, Cypress, Express.js

**Cloud and Tools:** AWS, GCP, Azure, Pulumi, Kafka, MySQL, MongoDB, Linux

## Experience

### Software Engineer Intern — CHARLIE MEDIA LLC — Boston, MA

Aug 2023 - Dec 2023

- Transformed ArtMath, a Progressive Web Application (PWA) in just one month, elevating the K-8 mathematical learning experience through student-centric story creation and crowdsourcing
- Integrated AI capabilities of DALL-E to dynamically generate engaging images for ArtMath stories, empowering K-8 students to seamlessly create and annotate content
- Led the comprehensive restructuring of the teacher portal, introducing impactful features that resulted in a notable 30% increase in overall efficiency. Teachers now benefit from streamlined classroom management tools and detailed analytics
- Resolved Firebase API call limitations by 40% through the implementation of Pinia store, ensuring optimal platform performance and stability

### Software Engineer — WOLTERS KLUWER — Chennai, India

Oct 2020 - Jun 2022

- Implemented Node.js-powered Azure Functions with webhooks to enable real-time data synchronization between platforms, resulting in a remarkable 90% reduction in CPU utilization
- Overhauled user experience by designing and developing multiple React components, strategically reusing them to enhance departmental functionalities, resulting in performance improvement, reducing processing time by 30%
- Implemented automated approval pipelines for various actions and developed an auto-backup system, enhancing operational efficiency and data security
- Fostered collaboration across cross-functional teams, crafting innovative system design and development solutions that seamlessly catered to diverse business needs. Empowered the success of over four thriving business units

## Projects

### CLOUDAPP | AWS, GCP, Pulumi, Packer, Express.js

Sep 2023 - Dec 2023

- Developed an Express.js application with a robust CI/CD pipeline using GitHub Actions, executing pre-merge workflows for test cases, code formatting, and linting, while post-merge workflows built and deployed an Amazon Machine Image (AMI) to the cloud
- Utilized Pulumi to define and provision modular cloud infrastructure components like gateways, subnets, security groups, RDS databases, EC2 instances, and CloudWatch modules, incorporating auto-scaling alarms for dynamic scalability

### TRAVELING SALESMAN | Java, Spring Boot, JUnit, Leaflet.js

Jan 2023 - Apr 2023

- Collaborated with a team of 3 to construct a TSP for 585 geographical coordinates resulting in a total cost which was approximately 18% higher than the Minimum Spanning Tree Cost
- Conducted research and executed tactical and strategic techniques, including Christofides algorithm and Ant Colony Simulation, to generate candidate solutions

### XENE - LOGIC ASSESSMENT PROGRAMMING SPA | Vue, Vuetify, Node

Dec 2019 - Apr 2020

- Developed an SPA with a team of 4, introducing a context-sensitive keyboard to elevate the coding experience and eliminate manual coding efforts. Additionally, designed a gamified user interface, integrating a progression-based unlocking mechanism and problem-based animations using Lottie.js
- Developed an analytics engine with C3.js, tracking 4 key coding metrics (Time, Edits, Conciseness, Complexity) to provide valuable insights into coding patterns and efficiency

## Academic Support Roles

### Graduate Teaching Assistant — Northeastern University

Jan 2023 - Present

- Served as a Teaching Assistant, guiding students in Web Development and UX Engineering from Jan 2023 to Jul 2023. Subsequently, contributed to teaching Scala and big data concepts in Big Data System Engineering from Jan 2024 to Apr 2024, emphasizing hands-on coding sessions and comprehensive evaluations