

# ARYAN SHAH

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## EDUCATION

### Northeastern University - Khoury College of Computer Sciences

Master of Science in Computer Science, GPA: 4.0

Boston, MA

May, 2026

### Vellore Institute of Technology

Bachelor of Technology in Computer Science and Engineering, CGPA: 8.30/10

Vellore, Tamil Nadu

June, 2024

## TECHNICAL SKILLS

**Languages:** C, C++, Java, Python, R, HTML5, CSS3, TypeScript, JavaScript, PHP, SQL

**Developer Tools:** Git, GitHub, Postman, Android Studio, Tableau, Power BI, Kubernetes, Docker, Prometheus, Grafana

**Frameworks & Libraries:** React.js, Material UI, Formik, React Hook Form, Node.js, Django, Flask, Spring Boot, FastAPI

**Databases:** MySQL, PostgreSQL, MongoDB, Firebase, Redis

**Testing & QA:** JUnit, Mockito, Jest, React Testing Library, Playwright

## EXPERIENCE

### Khoury College of Computer Sciences

Graduate Teaching Assistant (CS3500: Object Oriented Design)

Boston, MA

May-June, 2025

- Mentored **50+ students weekly** in advanced **OOP principles, Java design patterns, and software architecture** best practices through interactive labs and one-on-one office hours
- Conducted comprehensive **code reviews** and provided detailed technical feedback on complex programming assignments, helping students debug issues and improve code quality
- Facilitated **debugging sessions and design reviews**, helping students master complex concepts like encapsulation, polymorphism, and SOLID principles

### RK Websoft Technologies

Software Development Intern

Anand, Gujarat

May-July, 2023

- Developed and deployed scalable **RESTful APIs using FastAPI and PostgreSQL**, integrated with a **React-TypeScript frontend** to support real-time diagnostic data workflows
- Refactored backend logic and modernized React components, **improving system throughput by 30% and enhancing model inference accuracy to 95%** by eliminating performance bottlenecks
- Processed **500+ automotive images** daily with **Python and PyTorch**; built interactive data dashboards with **TypeScript** to visualize results, achieving a **10% reduction in false positives**

## ACADEMIC PROJECTS

### PixelForge | Java, Spring Boot, MongoDB, JUnit

- Developed a **Java-based image processing application** using **SOLID principles, MVC architecture, and the Command design pattern**, supporting **20+ operations** including blurring, sharpening, and color correction
- Engineered a **RESTful backend with Spring Boot and MongoDB** to manage image storage and retrieval, enabling seamless data flow to the GUI
- Built an interactive **JFrame GUI** with dual modes (interactive/script-based); validated functionality through **400+ JUnit tests** covering unit, controller, and mock scenarios

### RoamRadar | React Native, Firebase, Google Maps API

- Created a **cross-platform** travel discovery app using **React Native**, delivering a consistent user experience across iOS and Android.
- Integrated **react-native-maps** and **Google Places API** to deliver real-time, location-based recommendations, improving user engagement with personalized suggestions that increased session duration by 30%.
- Implemented **Firebase Authentication** and **Firestore** to enable secure login and cloud-sync for **100+ saved locations**, optimizing **load times to under 200ms** with indexed queries and image caching via **react-native-fast-image**

### StreamBox | React, TypeScript, Node.js, FastAPI, MongoDB, Docker, Kubernetes, AWS

- Developed a Netflix-style video platform using **microservices** with a **TypeScript-based React frontend and Node.js + Redis backend services**
- Containerized **10+ services using Docker** and deployed on **AWS EKS** with **service discovery, auto-scaling, and load balancing** for high availability
- Implemented **CI/CD pipelines with GitHub Actions** to automate testing and deployments; integrated **Prometheus and Grafana on AWS** for real-time monitoring and alerting