

# Faizaan Baig

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## EDUCATION

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### Georgia Institute of Technology

B.S./M.S. in Computer Science - 3.9/4.0 GPA, Zell Miller Scholar

Expected: May 2026

Atlanta, GA

### Brookwood High School

Valedictorian Class of 2021, SAT 1590/1600

Aug. 2017 - May 2021

Snellville, GA

## EXPERIENCE

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### Amazon

May 2024 – Aug. 2024

#### Software Development Engineer Intern

Bellevue, WA

- Built a scalable Outage Detection Service monitoring 4000+ API logs/hour with IaC (Lambda/CloudWatch/Java)
- Created a Java Lambda resource to handle outages and asynchronously execute DynamoDB/Logs Insights queries
- Detected anomalies within API logs by implementing CloudWatch metrics/alarms to trigger other AWS resources
- Developed a mapping system to automate the identification of 50+ impacted services during outages (DynamoDB)
- Created a CI/CD pipeline to automate testing and deployment of code packages for the Outage Detection Service
- Implemented a robust and full-coverage testing framework with unit and integration tests using JUnit & Mockito

### Institute of Nuclear Power Operations

Sep. 2023 – Dec. 2023

#### Software Engineer Intern

Atlanta, GA

- Created staging infrastructure in AWS for internal APIs using Terraform, deployed using Github Actions CI/CD, and set up logging and monitoring using CloudWatch (AWS ECS, Amazon S3, Docker, Terraform, Kubernetes)
- Automated migration of 320+ existing agents/monitors to infra-as-code (MonteCarlo/Terraform/Github Actions)
- Improved performance for 11,000+ users by updating IRIS client-side data entry systems utilizing Java/C++/Git
- Saved 2400+ hrs/yr for employees by deploying a nuclear performance projection tool utilizing Azure DevOps/R
- Fixed errors affecting 70+ databases used globally by implementing SQL updates to correct group-key migrations

### Georgia Institute of Technology

May 2023 - May 2024

#### Teaching Assistant - CS 2340 Objects & Design

Atlanta, GA

- Leading a project-based course on software engineering principles with a focus on Object-oriented programming
- Instructing 400+ students on Agile methodology, SOLID/GRASP principles, UML diagramming, and Unit testing
- Hosting office hours for 200+ students, creating/delivering review presentations, and grading midterms & projects
- Teaching languages and frameworks including Java/JavaScript/React/Python, and IDEs such as VS Code/IntelliJ

## PROJECTS

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### ML Powered Trading Decisions | *Pytorch, Vue.js, scikit-learn, Git, Yahoo Finance API*

- Scraped and pre-processed daily stock data, analyzed 40 technical indicators, and conducted unsupervised learning using K-Means clustering with Dynamic Time Warping (DTW) to analyze data
- Performed supervised learning with Support Vector Machine (SVM) and Gaussian Naive Bayes (GNB), and conducted in-depth analysis of various strategies and feature reduction techniques

### Parallelized Machine Learning Library | *C++, OpenMP, Eigen*

- Implemented parallel algorithms & preprocessing in C++, and leveraged Eigen for optimized matrix operations

### Real-Time Object Detection App | *Python, TypeScript, WebRTC, React.js, Firebase, YOLO, Flask*

- Designed and implemented an object-detection algorithm utilizing YOLO and Python within a Flask back-end, and then integrated it with a React.js front-end
- Implemented real-time video streaming by utilizing WebRTC and employed Firebase as the signaling server

## TECHNICAL SKILLS

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**Languages & Frameworks:** Java, Python, C, C++, SQL, R, JavaScript, TypeScript, Go, JUnit, Ruby, React, Node.js

**Dev Tools & Libraries:** AWS, Git, Docker, Linux, Brazil, Microservices, pandas, NumPy, CI/CD, Agile, Jenkins

**Coursework:** Data Structures and Algorithms (1332), Intro to Database Systems (4400), Objects & Software Design (2340), Computer Organization & Programming (2110), Object-Oriented Programming (1331), Linear Algebra (1554)