

# Nouman Syed

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## EDUCATION

### Stevens Institute of Technology (Hoboken, NJ)

Master of Science, Computer Science

Expected Graduation – May 2024

GPA: 3.67

### Mahatma Gandhi Institute of Technology (Hyderabad, India)

Bachelor of Technology, Computer Science and Engineering

2018 – 2022

## EXPERIENCE

### Graduate Course Assistant (Web Programming) | NodeJS, TypeScript, Puppeteer, Axios, MongoDB, Canvas API

Stevens Institute of Technology

May 2023 - Present

Hoboken, NJ

- Designed course assignments to facilitate an optimal learning experience for students.
- Automated submission preprocessing and grading using NodeJS, Puppeteer, Axios, and MongoDB, efficiently handling over 250 student submissions.
- Engineered a custom Typescript-based assertion library to integrate with grading scripts.
- Reduced grading time from 100 -120 hours to a few minutes weekly by efficiently integrating the Canvas API with the grading solution.
- Provided student support through Office Hours and Slack, addressing course-related inquiries, and clarifying key concepts.

### Open-Source Contributor | Python, JavaScript, GnuPG, Docker

SecureDrop

- Revamped SecureDrop's security signature verification process, leveraging Python and JavaScript for backend enhancements.
- Boosted application performance while downloading browsers by 30% through Docker-based deployment optimizations and substituting the gpg verification tool with gpgv and keyring.
- Contributed to a significant reduction in dependencies and streamlined operations, elevating security, and operational efficiency.

## PROJECTS

### myDE | MongoDB Atlas, NodeJS, Express, Docker, React, Heroku

- Developed a versatile web-based code editor supporting 5 programming languages (Python, C++, Java, Rust, JavaScript) using a microservice architecture with a NodeJS backend and React frontend.
- Seamlessly handled user-submitted code and data through Express APIs, and efficiently managed data in a MongoDB Atlas database.
- Leveraged Docker for efficient code execution, created and utilized pre-built images and stored them on Docker Hub.
- Integrated robust security features, like limiting Docker CPU/memory usage, rate-limiting, JWT authentication, and XSS prevention.
- Conducted load testing with up to 10,000 concurrent requests and benchmarked a P95 latency of 1100ms.

### Web-A11y | NodeJS, JSDOM, Axios, Mocha, Chai, Github Workflows

- Developed a NodeJS tool for AA level WCAG 2.2 compliance, leveraging JSDOM for efficient HTML content manipulation on webpages.
- Achieved 70% coverage on accessibility issues, enhancing user experience and expanding the potential userbase by 10%.
- Utilized Mocha and Chai for a reliable testing framework and implemented Github Workflows for seamless integration and continuous testing, ensuring reliability and accuracy of accessibility assessment.
- Devised a severity ranking system for accessibility issues, facilitating efficient prioritization and resolution of high-impact issues.

### PrioriQ | MongoDB, NodeJS, Express, JavaScript, Handlebars, jQuery, Ajax, HTML, CSS

- Engineered a robust Express-powered distributed Task Management web application with a NodeJS backend and a MongoDB database.
- Implemented a sophisticated 'Priority Based Preemptive Scheduling' algorithm to automate and optimize task prioritization.
- Streamlined decision-making by dynamically prioritizing tasks based on their priority and deadlines, reducing prioritization time by 50%.
- Developed collaborative features that facilitate team communication and task coordination increasing team efficiency by 10%.

### Calculator Programming Language | Python, AST, typing

- Created a custom programming language using Python for high precision calculations.
- Implemented an efficient lexer for tokenizing input expressions and a parser with Abstract Syntax Trees for expression interpretation.
- Constructed an evaluator supporting interactive execution with advanced math operations and arbitrary precision.

## SKILLS

### Languages:

JavaScript, Python, SQL, TypeScript, Java, C, C++, HTML, CSS, PHP, Ruby, Swift

### Frameworks and Libraries:

NodeJS, React, Svelte, SvelteKit, Express, Flask, Handlebars, PyTest, unittest, Mocha, Chai, Jest, AJAX, JQuery, NextJS, TailwindCSS, pygame, pandas, numpy, scipy, SwiftUI

**Other Technologies:** Vim, VSCode, Git, Github, npm/yarn/bun, pip, Shell Scripting, REST APIs, GraphQL, PostgreSQL, MongoDB, CircleCI, GH Workflows, AWS Lambdas, Amazon S3, Vercel, Heroku, TypeORM, MikroORM

**Other Skills:** Well versed in developing full-stack web applications with strong background in Backend and API development, Familiar with Agile methodologies including Scrum, Kanban, and Agile project management practices, Office Suite.