

Mohammed Yousef

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Education

Rutgers University, School of Engineering

Computer Engineering and Computer Science

GPA: 4.0

New Jersey

May, 2027

- Coursework: Engineering Mechanics, Programming Methodology, Digital Logic Design, Comp. For Engineers.

Work Experience

New Jersey Turnpike Authority

Software Engineering Intern; 40 hr/week

Woodbridge, New Jersey

May 24-Present

- Collaborated with a team of four to design, develop, and deploy an internal application managing timesheets, overtime, and equalization of Turnpike Toll Collectors, now utilized across 90% of toll booths in New Jersey.
- Created computational models for an adaptive 3D node diagram that oversees all operational systems of the Authority, using GraphQL for efficient data querying and WebSockets for real-time updates to enhance oversight and performance analysis.

Focused Coaching, International Tutoring

SAT Tutor and Instructor; June '23- May '24: 30 hr/Week; Current: 6 hr/week

Morganville, New Jersey

June 23-Present

- Instructed 40+ students in SAT mathematics and grammatical syntax daily.
- Encouraged independence and refined my active listening and flexibility in regards to students' learning methodology, which resulted in an average increase of 200 points in the Mathematics section.

EZ Clinical Laboratory

Data Analyst; 20hr/week

Cranbury, New Jersey

Dec 21-Mar 22

- Analyzed ~20% of all incoming medical data and commanded multiple operations through the Avalon software during the peak of COVID-19 testings.
- Conducted ~10 nasopharyngeal swab tests daily and aided in testing blood and COVID-19 specimens
- Collaborated with co-workers to manage on-site demand, solve complex software defects, and optimize the allocation of data through various pipelines.

Project Experience

Toll Collector Overtime Log

New Jersey Turnpike Authority

- Utilized AWS services for scalable cloud infrastructure and secure data storage, implemented Next.js for a responsive and dynamic user interface, and employed JWT for secure authentication and authorization.
- Engineered RESTful APIs and integrated them with dynamic data processing to facilitate seamless interactions and updates, reducing data sync latency by 30%
- Contributions led to a 30% improvement in resource management effectiveness and a 25% increase in reporting accuracy.

Internal System Monitoring Diagram

New Jersey Turnpike Authority

- Developed comprehensive algorithms and frameworks for continuous system monitoring and performance optimization, which improved monitoring efficiency by 25% through live, data-driven operational responses.
- The application analyzed data from 100+ metrics across various sources, identifying performance bottlenecks and automating responses, reducing manual interventions and reportings by 40%.

Personal Portfolio Website

Personal

- Developed a responsive and animated portfolio website using Next.js, Three.js, and Spline to showcase experience, personal identity, and to streamline direct communication between visitors and myself.
- Integrated a user-friendly contact system that allows users to send emails directly via the platform.

Handwritten Digit Recognition

Personal

- Engineered a custom K-Nearest-Neighbors (Pandas, Python, and MATLAB) with enhanced cluster effectiveness to develop a handwriting prediction model, using an online digit dataset, with 84% accuracy.

Skills

Programming Languages: Python, Java, Javascript, C#, CSS, Typescript, HTML, C++

Technologies: React.js, Next.js, Express.js, Java Spring Boot, MongoDB, PostgreSQL, GraphQL, Drizzle ORM, NextAuth, JWT, Sentry, Websockets, Three.js