

## Mohammad Zarak Shah Ji

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### WORK EXPERIENCE

#### BMW Financial Services

Woodcliff Lake, NJ

Data Analyst

September 2023 - Present

- Boosted retail revenue by 20% through developing a collaborative filtering recommendation model using Python, leveraging item-item similarities and customer session data
- Enhanced financial tracking with Tableau dashboards and TabPy integration, automating Excel reports and achieving a 40% reduction in processing time and around 15% increase in budgeting efficiency
- Automated the cash reporting process for CEO decision-making, migrating large portions from Excel to SQL and reducing the overall financial month-end close turnaround time from 3+ days to 1 day
- Streamlined reporting and data analysis processes by leading a transition to Amazon Athena and PostgreSQL cloud-based system, reducing generation time by 30% and enhancing data reliability for faster decision-making

#### BMW of North America

Oxnard, CA

Software Engineer

September 2022 – September 2023

- Designed and implemented a new vehicle test order management application using TypeScript, Angular, Express.js, and Node.js, achieving a 97% validity rate in automating the emissions testing process pipeline
- Automated vehicle data import using Ajax and JSON, decreasing data entry time by 40% with 100% accuracy
- Implemented Role-Based Access Control, reducing unauthorized access by 30% and saving 2 hrs/week for the engineering team
- Integrated new features, including intuitive test sequence editing with PrimeNG and calendar integration with the angular-calendar open-source repository, elevating the application's capabilities and enhancing user experience

#### Sandia Labs

Los Angeles, CA

AI Research Assistant

September 2021 – August 2022

- Conducted penetration testing on microservices applications using Python and Recurrent Neural Networks, identifying attack patterns, forecasting threats and reducing cyber-attack risk by 80%
- Created datasets from attack telemetry and trained an RNN model via Python, yielding a 30% accuracy surge in threat detection
- Remodeled a load testing tool using Python to conduct DDoS attacks, identifying 7+ vulnerabilities in microservices
- Deployed a open-source microservices application on Kubernetes using YAML, achieving 100% functionality

#### University of Kashmir

Kashmir, India

Full Stack Developer

March 2020 – August 2021

- Developed and managed a Django-based e-commerce web app with Django-allauth, SCSS, jQuery, and PostgreSQL, boosting website traffic by 45% and sales revenue by 10%
- Leveraged Python multithreading /async, boosting throughput by 30% and slashing processing times via resource utilization
- Refactored legacy systems using design patterns and Git, boosting maintainability by 25% and reducing tech debt

#### BMCP Solutions

New Delhi, India

Front end Developer Intern

November 2019 – February 2020

- Conducted A/B testing and click path optimization with layout variations and CTAs, increasing conversion rates by 10%
- Developed a responsive company website with HTML, CSS, Bootstrap, and JavaScript, boosting user engagement by 15%

### EDUCATION

#### California State University Northridge, College of Engineering and Computer Science

Los Angeles, CA

Master of Science in Computer Science | Outstanding Student Award | IEEE – Eta Kappa Nu | Valedictorian | GPA: 3.97 / 4.00

#### University of Kashmir, Department of Computer Science and Engineering

Kashmir, India

Bachelor of Technology in Computer Science and Computer Engineering

### PUBLICATIONS AND PROJECTS

#### Predictive Modeling of Diabetes Onset and Survival Analysis Among Diabetic Patients

(CSCE), 635 -641 page, [DOI](#)

- Built random survival forest model using heart failure data, identified anemia and high BP as risk factors for diabetics (0.90 AUC)

#### Driver Drowsiness detection

[GitHub](#)

- Developed a 95% accurate drowsiness detection system through facial analysis using OpenCV, YOLO v5, NumPy, and Matplotlib

### HONORS, LEADERSHIP & ACHIEVEMENTS

- LeetCode 100 Badge | Awarded to Top 4.2% LeetCodeers | 2024
- Master's Batch Excellence Award (Rank 1) | 2023
- Research Bootcamp Mentor | IEEE-Eta Kappa Nu | 2022
- Teaching Faculty Leader | El-Zahra Education Center | 2024
- Tableau Desktop III Advanced Certification | Salesforce | 2023
- Machine learning with Python from IBM | Coursera | 2020

### SKILLS

- **Programming Languages:** Python, JavaScript, C, C++, Java
- **Databases & Cloud:** MySQL, PostgreSQL, Amazon S3, Git, Docker, Kubernetes
- **Frameworks:** PyTorch, Django, Angular
- **Libraries:** Scikit-learn, RxJS, Pandas