

Mohammad Zarak Shah Ji

Bergenfield, NJ | [LinkedIn](#) | 747-388-6386 | zarak.shahjee1@gmail.com | [GitHub](#) | [Website](#)

SKILLS

Programming: Python, JavaScript, TypeScript, C++, C#

ML/DL Frameworks: TensorFlow, PyTorch, XGBoost, scikit-learn, OpenCV, YOLO v5

Software Engineering: REST APIs, Node.js, Express, Angular, Microservices, Git, CI/CD

Cloud & DevOps: AWS (SageMaker, S3, EC2), Kubernetes, Docker, Azure, GCP

Data & Analytics: SQL, PostgreSQL, Snowflake, NoSQL, Tableau, A/B Testing, Time Series Analysis

WORK EXPERIENCE

BMW Financial Services LLC

Woodcliff Lake, NJ

Senior Data Scientist

September 2023 - Present

- Architected anomaly detection models via SageMaker for production inference, achieving <100ms latency while reducing manual validation overhead by 15%
- Developed compressed XGBoost models for financial time series analysis, improving prediction accuracy by 12% while maintaining sub-second inference times
- Architected and deployed customized Expert Agents using RAG and LLM APIs (ChatGPT, Claude) to provide contextual financial insights, enabling autonomous decision-making across cross-functional teams
- Developed and deployed collaborative filtering recommendation model using clickstream data analysis, improving targeted promotions effectiveness by 20% and directly impacting customer conversion rates
- Created comprehensive Tableau dashboards for pre-owned vehicle data analysis, providing customer behavior insights and reducing manual reporting time by 40%

BMW of North America LLC

Oxnard, CA

Software Engineer

September 2022 – September 2023

- Engineered a vehicle test order management system using TypeScript, Angular, Express, and Node.js, streamlining scheduling and data validation for emissions testing
- Built REST APIs in Node.js and C#, reducing server response times by 30% through efficient query handling and load balancing
- Integrated virtual test systems via JSON/XML and automated input forms, eliminating manual reporting workflows and improving documentation accuracy

Sandia Labs

Livermore, CA

Research Scientist

September 2021 – August 2022

- Applied machine learning techniques to identify anomalous trends in DDoS attack network logs data, conducting microservices penetration testing with Python and TensorFlow for threat forecasting
- Trained Recurrent Neural Networks on curated datasets to enhance threat detection capabilities for fraud prevention systems
- Engineered load testing tool to conduct end-to-end DDoS attacks, identifying 700+ vulnerabilities within microservices
- Deployed DeathstarBench social application as microservices using Kubernetes and Docker for scalable container orchestration

University of Kashmir

Srinagar, India

Software Engineer

March 2020 – August 2021

- Developed and managed a Django-based e-commerce web app leveraging vanilla JavaScript, 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 deb

EDUCATION

California State University Northridge, College of Engineering and Computer Science

Los Angeles, CA

Master of Science in Computer Science | Outstanding Student Award | 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, high BP as risk factors for cardiac event (0.90 AUC)

Driver Drowsiness detection

[GitHub](#)

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

LEADERSHIP & CERTIFICATIONS

- Tableau Desktop III Advanced Certification | Salesforce | 2023

SQL Certified Professional | TestDome | 2023