Mohammad Zarak Shah Ji

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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 | Vehicle Emissions Testing Team   *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 | Cyber Security Research and Development Team   *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 2021 – 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