Mahtab Khan

Calgary, AB · (403)714-9366 · mahtabukhan16@gmail.com · linkedin.com/in/mmahtabkhan · github.com/Mmahtab10

Education

University of Calgary   **Sep 2019 – Apr 2024**
Bachelor of Science, Software Engineering   *Calgary, Alberta*

cGPA: 3.8/4.0 (Dean's Honours List 2019-2022)

Relevant Coursework: Data Structures and Algorithms, Database Management Systems, Data Science II, Web Development, Distributed Systems, Scalable Data Analysis (Hadoop and ETL), and Statistics

Work Experience

Pason Systems   **May 2022 – Sep 2023**
Data Science Intern   *Calgary, Alberta*

- Engineered the development and maintenance of high-scale data analysis software developed in Python, serving over **2,000** weekly users and providing critical functionality for daily business operations
- Spearheaded the creation and deployment of section detection algorithms for industrial process sensors, improving data processing **speed by 17%** and **accuracy by 15%**
- Implemented K-means clustering algorithms to analyze patterns in drilling surfaces
- Developed project documentation—design, implementation, testing—to boost efficiency, cutting time to market by 40%.
- Actively collaborated with product managers, designers, and sales representatives to gather requirements and generate client reports, ensuring daily project alignment and effective communication

University of Calgary   **Jun 2021 – Aug 2021**
Software Engineering Research Intern   *Remote*

- Researched video data analytics for human biometrics, focusing on advanced action detection and accurate breathing rate estimation
- Led the development of user-friendly interfaces for agent-based modeling, enhancing accessibility for interdisciplinary teams

Technical Projects

Traffic Crash Prediction   **PySpark | ML Libs | Databricks**

- Led a Traffic Crash Prediction project using **Azure Databricks** platform, handling data extraction, cleaning, and analysis on datasets comprising over **700,000 records** retrieved through its API
- Developed a predictive random forest model using PySpark, securing high validation scores in forecasting accidents
- Enhanced data visualizations using Matplotlib and Seaborn, improving decision-making with actionable insights

Distributix   **AWS(EC2, RDS & Lambda) | Python | Next.js | Tailwind CSS**

- Engineered a distributed ticketing system with a microservices architecture on AWS
- Enhanced scalability and fault tolerance through replica deployment across multiple instances and database replication
- Optimized load distribution using AWS load balancers to support over 1,000 concurrent users, coupled with rigorous load testing to ensure performance stability under peak conditions

TrapEase   **AWS | Docker | Python**

- Deployed decoy portals using AWS, increasing threat detection and compromised credentials identification by 40%
- Optimized operational efficiency by integrating AWS services, using Azure AD for credential authentication, EC2 for scalable hosting, and QuickSight for dynamic data visualization, achieving a 30% reduction in data processing times
- Implemented agile methodologies, accelerating feature deployment by 20% and boosting productivity by 25%

Technical Skills

Languages: Python, C, C++, SQL, JavaScript, Java, PHP, HTML5, CSS, JSON
Developer Tools: AWS (VPC, RDS, EC2, S3, Lambda), Node.js, Postman, Docker, Kubernetes, Git, Terraform, Power BI
Libraries/Frameworks: PySpark, Next.js, Tailwind CSS, Express.js, ML Libs, Datadog