Mahtab Khan

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Education

University of Calgary   **Sep 2019 – Apr 2024**
Bachelor of Science in Software Engineering, with Distinction   *Calgary, Alberta*
cGPA: 3.8/4.0 (Dean's Honours List 2019-2022, 2023-2024)

Relevant Coursework: Data Structures & Algorithms, Relational Databases, Software Architecture, Distributed Systems, Big Data, Performance Engineering, Computer Networks, Operating Systems, Web Development (PHP)

Work Experience

TrapEase (Entrepreneurship Capstone)   **Sep 2023 - Apr 2024**
Co-founder   *Calgary, Alberta*

- Founded and led a cloud cybersecurity startup, overseeing product development, market strategy, and team management
- Deployed decoy portals using AWS, increasing threat detection and compromised credentials identification
- Optimized operational efficiency by integrating cloud services, using Azure AD for credential authentication, EC2 for scalable hosting, and QuickSight for dynamic data visualization, reducing data processing times significantly

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

- Engineered the development and maintenance of high-scale data analytics software in Python, serving over **2,000** weekly users and enabling data-driven decision making for daily business operations
- Initiated and deployed section detection algorithms, enhancing data processing speed by 17% and accuracy by 15%, resulting in a weekly saving of 6 hours of manual work
- Facilitated problem-solving and collaboration with software development teams to develop widgets for section detection
- Developed project documentation including design, implementation, and testing, reducing time to market by 40%
- Collaborated with PMs, drilling engineers, and account managers to gather requirements and implement new features
- Conducted code reviews and refactoring with the team to ensure high code quality and maintain best practices

University of Calgary   **Jun 2021 – Aug 2021**
Software Developer Intern (Research)   *Remote*

- Researched video data analytics for human biometrics, focusing on action detection and breathing rate predictions
- Led the creation of intuitive, user-centric interfaces for agent-based modeling systems, substantially improving usability and facilitating cross-disciplinary team collaboration

Technical Projects

Property Management System (SENG 513) ⭘   **Node.js | AWS | MySQL | Docker | Express.js**

- ∗ Designed MySQL queries for user registration and authentication, and built a scalable AWS backend with 99.9% uptime
- ∗ Simplified backend solutions with NodeMailer and SQL for user email interactions
- ∗ Improved security using bcrypt and JWT for password hashing and secure tokens
- ∗ Leveraged Docker Compose to facilitate multi-container setups for both frontend and database services; optimized development workflows and deployments

Distributix (Distributed Ticketing System) ⭘   **AWS(EC2, RDS & Lambda) | Python | Next.js**

- ∗ 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
- ∗ Used AWS load balancers to support over 1,000 concurrent users, ensuring performance stability through load testing

Technical Skills

Languages: PHP, C, C++, Java, JavaScript, MySQL, Python, JSON
Developer Tools: Databricks, AWS (RDS, EC2, S3, Lightsail, QuickSight), GCP, Azure, Postman, Docker, Git, npm
Libraries/Frameworks: PySpark, Hadoop, Node.js, Express.js, React, Spring, Machine Learning Libraries
Interests: Soccer, Ping pong, Basketball, E-sports, Golf, Hockey, Cycling, Traveling