

# Mosa Yaqoobi

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## EDUCATION

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- **University of Alberta** Sep 2022 – Present  
Bachelor of Science with Specialization in Computing Science  
**Relevant coursework:** Data Structures And Algorithms, Advanced Algorithms, Basics Of Machine Learning, Introduction To Linear Programming, Optimization in Machine Learning, Introduction To File And Database Management, Discrete Mathematics, Numerical Methods.
- **Red Deer Polytechnic** Completed  
Electrical Engineering Technologist  
**Relevant coursework:** C/C++ in embedded systems, PLC and Control, SCADA and HMI

## EXPERIENCE

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- Faculty of Science (University of Alberta)** Oct 2022 – Apr 2023  
Undergraduate Research Work — Edmonton, AB
- Developed a Python-based system to detect and analyze brainwave patterns using an EEG headset, enabling real-time neurofeedback and external device control.
  - Implemented a PyQt6-based user interface to display EEG signals dynamically and provide actionable insights through neurofeedback.

## PROJECTS

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- Library Management Database System** — *Python, SQL*
- Developed a database management system utilizing SQLite and integrated it with Python, adhering to specified relational schema and SQL commands.
  - Orchestrated group collaboration within a team of 3-4 members to ensure equal contributions and successful project completion.
  - Implemented a command-line interface for efficient user interaction and task execution, focusing on user login, registration, and logout functionalities.
- Apple Quality Model** — *Python, Pandas, Matplotlib, Scikit-Learn, Google Collab*
- Built a classification model to predict apple quality using logistic regression and decision tree algorithms.
  - Implemented logistic regression for binary classification of apple quality (good quality (1) or bad quality (0)).
  - Utilized decision tree algorithm, random forest, and simple logistic regression to enhance prediction accuracy.
- Social Networking Platform** — *Python, Django, GitHub, PostgreSQL, Docker*
- Developed a distributed social network that allows authors to post, follow, and interact across decentralized nodes, replicating features of modern social platforms.
  - Optimized API response times by ~30% using query optimizations and indexing in PostgreSQL.
  - Enforced secure node-to-node communication using HTTP Basic Authentication for federated social media.
  - Designed a REST API supporting post sharing and user following.
- Event Lottery System Application** — *Java, Firebase*
- Led a team of 5 members to design and implement the Event Lottery System Application, ensuring efficient task allocation, code reviews, and project delivery on schedule.
  - Integrated QR code scanning for event details and Firebase for secure, real-time data management.
  - Improved user experience with a notification system, sending instant alerts to participants.

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, R, SQL, Julia, Java, JS  
**Developer Tools:** Github, Git, Visual Studio Code, Google Collab, Android Studio  
**Libraries:** NumPy, Matplotlib, Scikit-Image, Scikit-Learn, Math, Pandas