

# Mosa Yaqoobi

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## EDUCATION

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

## EXPERIENCE

- University of Alberta** Oct 2022 – Apr 2023  
Research Assistant Edmonton, AB
- Developed a **Python**-based system using an **EEG headset** for real-time **neurofeedback** and device control, analyzing **Delta, Theta, Alpha, Beta**, and **Gamma** brainwave patterns.
  - Designed and implemented **signal filtering algorithms** to reduce noise in **ECG waveforms**, achieving cleaner signal acquisition and improving data reliability for physician analysis.

## PROJECTS

- ApplicationHub** — *Next.js, Node.js, MongoDB, Tailwind CSS, Chrome Extension API*
- Developed an automated job tracking system combining a **Chrome extension** with a **Next.js** dashboard, eliminating manual tracking and streamlining the application process.
  - Built **Chrome extension** to capture application data automatically, reducing manual tracking time by ~98% and providing seamless **data synchronization**.
  - Implemented **MongoDB** database schema with **RESTful API** endpoints, managing application **CRUD operations** and powering interactive dashboard visualizations.
- Library Management System** — *Node.js, Express.js, MongoDB, CSS/HTML, React*
- Designed and implemented asynchronous **RESTful APIs** using **Express.js/Node.js** for user and book management, enabling real-time book reservations in under 100ms and supporting ~500 concurrent users.
  - Optimized **MongoDB** queries with **indexing** and **schema design** improvements, reducing average query time by ~60% and enabling faster search and retrieval of records.
  - Automated the testing workflow through a **GitHub Actions CI/CD pipeline**, reducing manual testing time by ~80% and improving code reliability with automated test coverage.

**Event Lottery Management System** — *Java, Firebase*

- Led team of 5 to design and implement application, ensuring efficient **task allocation** and **code reviews**; integrated **QR code scanning** and **Firebase** for real-time **data management**, processing ~1000+ users.
- Implemented **notification system** with instant alerts, improving user engagement by ~40% and reducing missed event notifications.

**Agriculture Quality Classification System** — *Python, Pandas, Matplotlib, Scikit-Learn, Google Colab*

- Built **classification model** using **logistic regression**, **decision tree**, and **random forest** algorithms, achieving ~92% accuracy on test data.
- Implemented **feature engineering** and **hyperparameter tuning**, improving model performance by ~15% compared to baseline models.

## TECHNICAL SKILLS

**Languages:** Python, C/C++, R, SQL, Julia, Java, Javascript(JS), Typescript(TS), HTML/CSS

**Tools & Technologies:** MongoDB, Firebase, GitHub Actions, Chrome Extension API, Git, Docker

**Frameworks & Libraries:** React.js, Next.js, Express.js, Node.js, NumPy, Pandas, Matplotlib