Alex Lee

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Skills

Languages: Python, Java, C/C++, R, SQL, Bash, Typescript, Javascript
Frameworks/Libraries: Pandas, Matplotlib, NumPy, SciKit, TensorFlow, OpenCV, Selenium, Express, React
Tools: MySQL, MongoDB, PowerBI, Git, Linux, AWS, Make

Experience

Data Analyst May 2025 - August 2025
Daechitop English Institute

- Collected and cleaned student performance data using **Excel**; performed exploratory analysis to identify solutions for improvement and generated **PowerBI** dashboards that drove a **12%** increase in average test scores.
- Developed an automation tool using **Excel VBA** and **PyAutoGUI** to streamline repeated work, reducing working time by **75% (3x)** and enabling instructors to focus on personalized teaching.
- Delivered **data-driven insights** through accurate statistical analysis and communication skills, which instructors used to design and offer an appropriate education system that maximized students' study efficiency.

Database Developer January 2025 - April 2025
AKCSE *Waterloo, ON*

- Led the development of official AKCSE website using **Express** and **MongoDB** to enhance accessibility to career and academic help resources for students and increased the event participants by **150%**.
- Optimized website maintenance efficiency by **300%** by implementing **dynamic CRUD**, while implementing **authentication** and access control features to strengthen data security.
- Demonstrated quality teamwork and leadership by collaborating with a team of **5**, focusing on specialization for better outcome quality, and led to **20%** increase in event participation.

Finance Analyst September 2024 - December 2024
AKCSE *Waterloo, ON*

- Conveyed accountability and organization skills by analyzing and managing the cash flow of the organization using **Excel** to reduce reporting time by **30%** and improved reporting accuracy by **10%**.
- Coordinated with executive members to exercise strategized marketing while promoting academic resources such as Open House, and Resume Critique for the greater Kitchener-Waterloo community.
- Reduced **10%** of unnecessary expenditures by writting annual financial reports to identify inefficiencies and recommended actionable strategies for better financial management of the organization.

Projects

AI/ML Football Analysis | *Python, OpenCV, Pandas* | GitHub | Link

- Built a football analysis system using **OpenCV** to track key metrics such as ball possession and player speed.
- Trained a **YOLOv11** model with **10,000+** images, achieving **0.877** mAP50 with 35.7 ms per-frame latency.
- Deployed services on **AWS EC2** with **SQS**, and built a **Next.js** web app for video upload and real-time analysis.

FBREF Football Data Analysis | *Pandas, Matplotlib, PowerBI, Selenium* | GitHub

- Collected **100,000+** football match data using **Selenium** and cleaned raw datas into a **Pandas DataFrame**.
- Performed exploratory analysis using **matplotlib** and **PowerBI** to visualize findings interactively and intuitively.
- Identified progress passing distance as key predictor of math results, suggesting focused strategies to teams.

Academic Management System | *Java, Spring, MySQL, EC2* | GitHub

- Built a full-stack academic management web app of **20+** pages with **50+** users using **Spring** and **MySQL**.
- Ensured reliability with **200+** test cases and resolved issues such as multiple PK, time zone mismatches, etc.
- Facilitated grades management with **20+** essential features, CRUD operations, real-time chat, and custom filters.
- Reduced database response time by **30%** using nested SELECT statements to handle grouped ID increments.

Education

University of Waterloo September 2023 - Present
Bachelor in Data Science, Minor in Combinatorics and Optimization

Relevant Coursework: Data Structures, Algorithm Design, Statistics, Sampling Design, Linear Algebra, OOP
Scholarship: President's Scholarship of Distinction - $2,000 scholarship for students with average over 95%