

# Mohammed Almabhouh

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## EDUCATION

### University Of Western Ontario

*B.E.Sc in Software Engineering*

Related Coursework: Algorithms and Data Structures, Digital Logic Systems, Scripting Programming Language, Software Design, Software Construction, Statistics and Application, Discrete Mathematics

London, Ontario

Sept. 2023 – May 2027

## EXPERIENCE

### Software Developer

*Ameerz-Agent Proxy*

Sept 2024 – Present

London, Ontario

- Collaborated with a team of three developers: Designed an interactive driving course aimed at reducing accidents and improving road safety for tourists who navigate Canadian roads
- Utilized Java, HTML, and JavaScript: Developed an interactive platform projected to support a growing user base, ensuring a seamless and engaging learning experience
- Implemented a secure password vault: Developed a robust system using Python and libraries like sqlite3, hashlib, and cryptography. Incorporated encryption and decryption techniques, including Fernet and PBKDF2, to improve account security
- Designed plans for a login feature: Stratified the integration of a secure login page for user authentication, ensuring the personal accounts' safety and accessibility
- Conducted comprehensive risk assessments: Identified critical threats and proposed actionable mitigation strategies to enhance system reliability and resilience

### Web Designing Coop

*Campus Creative*

Oct 2022 – Jan 2023

London, Ontario

- Utilized WordPress to develop and manage websites: Customized themes and configured plugins, leading to a 70% increase in website traffic by improving user experience and content organization
- Enhanced website functionality: Integrated SEO tools and analytics plugins, resulting in improved search engine rankings and user engagement metrics
- Operated 3D printers to design and produce prototypes: Optimized settings for precision and material efficiency, reducing production errors and accelerating the prototyping process
- Collaborated on multimedia presentations: Combined 3D visuals and animations with engaging narratives, contributing to successful client presentations and educational materials

## PROJECTS / EXTRA CURRICULARS

### Password Vault | Python

- Developed a secure password vault using AES-256 encryption with PBKDF2-HMAC: Ensured high-level data protection by employing industry-standard cryptographic practices
- Designed a robust SQLite database schema for efficient management of user credentials: Structured the database to handle multi-user operations securely and effectively
- Implemented an intuitive GUI with Tkinter for password storage and generation: Created user-friendly features such as password strength indicators and customizable password parameters
- Added functionality for encrypted database backups: Enabled secure storage and recovery of user credentials in case of unexpected data loss

### Photographic Translator | Python, Node.js, Onshape

- Built a translator for visually impaired users using OCR technology and Raspberry Pi: Real-time text-to-speech conversion enabled to help users read printed materials
- Utilized Onshape and 3D printing for custom camera stands: Designed and manufactured stable and adjustable stands to optimize camera alignment for OCR performance
- Integrated real-time text recognition with Tesseract OCR: Enhanced accuracy and speed of text capture for a seamless user experience
- Developed a power-efficient system using Raspberry Pi: Implemented energy-saving techniques to ensure extended usage in portable scenarios

### Club: We AutoPilot | Python, PyTorch, OpenCV, DeepSORT

- Developed the perception module for an autonomous vehicle system by integrating advanced computer vision techniques, including object detection, image segmentation, and classification using Python, YOLO, OpenCV, and PyTorch
- Collaborated on the design and implementation of a vehicle's perception system workflow, encompassing camera feed input, detection and tracking, and real-time visualization of results with OpenCV
- Contributed to the organization and deployment of machine learning models by leveraging tools like Kaggle for training, GitHub for version control, and VS Code for development, achieving high levels of model accuracy (75-80%)
- Engaged in hands-on AI learning and team collaboration through building practical solutions, sharing knowledge, and participating in discussions to deepen understanding of AI concepts and applications in autonomous driving

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript, HTML/CSS, Linux, C#

**Frameworks:** React, Node.js, WordPress, PyTorch, OpenCv, DeepSORT