# Ahmad Kanoun

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## Education

**York University** Toronto, ON
*Spec. Honours Bachelors of Engineering, Software Engineering* *Sep. 2021 – Jun. 2025*

- **Relevant Coursework:** Computer Organization, Embedded Systems, Digital Logic, DSA, OOP, E-Commerce Systems Design

## Projects

**AttendU** | *Python, JavaScript, MySQL, OpenCV, Flask, React* Jun. 2023

- Developed a facial recognition system that automates student attendance using Python's **face-recognition** and **OpenCV** libraries.
- Developed a **MySQL** database to store user information, including facial vectors. Implemented efficient indexing and query optimization techniques for data retrieval.
- Developed a machine learning-based liveness detection system detection functionality using the **dlib** library's facial landmark detection capabilities.
- Integrating a robust **Flask** back-end with a user-friendly **React** front-end.

**ToyPredictor** | *Python, MySQL, Pytorch* Aug. 2023

- Designed a **machine learning** model to predict the resale value of novelty items.
- Engineered a dataset by using **Selenium web scraping** and **e-commerce REST API's** for product data, then organized it into a **MySQL database**.
- Trained the predictive model using a **regression algorithm** with **PyTorch**, utilized **Pandas** for advanced data pre-processing.

**FPGA Pong** | *Verilog, Quartus, ModelSim* Nov. 2023

- Developed the classic Pong game for the MAX10 **FPGA** using **Verilog**.
- Employed combinational logic for paddle and ball control, and leveraging sequential logic for managing memory elements, including score counters and game state transitions.
- Implemented **FPGA** specific logic for **VGA** display output, featuring horizontal and vertical synchronization signals and RGB color components, responsive player input mechanisms, collision detection algorithms, and a scoring system.

**Live Auction Bidding System** | *Java, Springboot, WebSocket, React, SQLite* Feb. 2024

- **Leading** the development of a real-time auction bidding system, enabling clients to buy and sell products through forward and Dutch auctions.
- Leveraging **Spring Boot** for the backend to manage **auction logic, user authentication** and interactions with a **SQLite** database.
- Implemented **WebSocket** protocol for real-time communication, facilitating instantaneous bid submission and reception.
- Constructed a responsive front-end using **React**, employing advanced state management and component-based architecture.

## Extracurriculars

**Artificial Intelligence in Health Society (AIHS)**
*York University*

- Engaged as an active member in AIHS, a club dedicated to bridging the intersection of **artificial intelligence** and **health science** at York University.
- Coordinated with club members to partner with **Luxsonic**, a rising **VR medical imaging company**, and aided in organizing an event showcasing their advanced imaging solutions.

**York University Robotics Society**

- Collaborated with a dynamic team to develop and program **autonomous** sumo robots for exciting competitions.

## Technical Skills

**Languages**: Python, C, Java, JavaScript, TypeScript, Verilog, Bash, SQL, HTML/CSS
**Tools & Frameworks**: Git, Flask, Quartus, Linux, Docker, Spring Boot, MySQL, SQLite, React