

Karim Jaouhar

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EDUCATION

YORK UNIVERSITY

BSC IN COMPUTER SCIENCE

Aug 2023 | Toronto, ON Canada

Lassonde School of Engineering

GPA: 3.7 / 4.0

IROQUOIS RIDGE HIGHSCHOOL

Grad. May 2020 | Oakville, ON Canada

SKILLS

PROGRAMMING LANGUAGES

Java • Python • Javascript

C • Assembly • Bash • Prolog

WEB DEVELOPMENT

React js • Node js • Next js

HTML • CSS • Tailwind

SOFTWARE DEVELOPMENT

Object-Oriented • Agile (SCRUM)

MySQL • Git • TDD • Design Patterns

Software Architecture

EMBEDDED SYSTEMS

Node MCU • Beagle Bone AI • HCS12

Interrupts • SPI/SCI • PWM • IoT

TOOLS AND UTILITIES

Eclipse IDE • VS Code • JUnit

Arduino IDE • Terminal • SpotBugs

CodeWarrior

COURSEWORK

COURSES

Data Structures

Algorithm Design & Analysis

Embedded Systems

(HCS12 & Beagle Bone AI)

Artificial Intelligence

(Heuristic Search & Prolog)

Software Design & Engineering

Data Analysis

Cyber and Information Security

Computer Professional Ethics

Computational Theory

TECHNICAL PROJECTS

SMART FRIDGE INVENTORY SOFTWARE | GITHUB | DEMO

Software Engineering

- The Smart Fridge Inventory System (SFIS) is an **Object-oriented Java software application** group project, with a client and QA team.
- The project was developed following the **Agile (SCRUM)** in 3 Iterations.
- utilized **TDD, Solid design principles, design patterns, Static Analysis (SPOTBUGS), and code refactoring** based on our QA team's reports.

HOME SECURITY SYSTEM | GITHUB | DEMO

IoT, Web Development & AI (LLM)

- **Home security system** based on Node MCU, controlled with natural language using **GTP-3/4, Forntend React** application, and Node js **Restful API**.
- Improved home security and automation, enabling **multilingual unstructured natural language prompting**.

MY SKATE SPOTS (SOCIAL APP) | GITHUB | DEMO

Web Development, Databases & RESTful API

- A **Next js social application** for sharing, and reviewing local skate spot locations for the **skateboarding community** worldwide.
- **Launched in May 2023 Accumulated 30 active users**, and my skate friends love it!

LSTM BOXING CLASSIFIER | GITHUB | DEMO

Machine Learning, Data Collection & MCU

- **LSTM model** to classify different boxing punches using **accelerometer data** collected from an ESP32.
- currently researching its application in interactive games, Health and Fitness, and Rehabilitation.

NOTE TALKS (STUDY NOTES AI) | GITHUB | DEMO

Web Development & AI (LLM)

- A **React application** that converts **study notes** to an interactive conversation as a mode of review, using **LLM (GPT-3/4) API**.

2X2X2 RUBICK'S CUBE SOLVER | GITHUB | DEMO

Logic Programming & Algorithm Design

- A Prolog program (Logic Programming) using the **meet-in-the-middle algorithm**, to find all the **shortest number of moves** to solve a 2x2x2 Rubik's cube which has 3,674,160 possible states within seconds.

EXPERIENCE

SQUARE DEVELOPER HACKATHON 2023 | TEAM LEADER

Jan 2013 – May 2013 | Palo Alto, CA & Ithaca, NY

LANG-CHAIN | OPEN SOURCE CONTRIBUTOR

Jan 2013 – May 2013 | Palo Alto, CA & Ithaca, NY