Mahmoud Abdelhadi

VANCOUVER, BC · UNIVERSITY OF BRITISH COLUMBIA

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SKILLS

Programming Languages C · C# · C++ · Python · Java · HTML · CSS · JavaScript · Linux · Verilog

Software Tools SQL/SQLite · MVC · xUnit · ASP.NET ·MATLAB · Git · SOLIDWORKS · Scikit-learn · APIs

EDUCATION

University of British Columbia, Canada
Expected graduation date: 2024

Bachelor of Applied Science - Electrical & Computer Engineering

- *UBC International Major Entrance Scholarship* **2018 – Present**
  Awarded a merit-Based $96,000 scholarship given to top international students for outstanding academic achievement and extracurricular contributions
- *UBC BASC Dean's Honor List* **2020 – 2021**

TECHNICAL EXPERIENCE

Tutankhamun FC, Egypt — Machine Learning Engineering Intern
May 2021 - August 2021

Tutankhamun FC is a professional football club in Fayoum, Egypt

- Collect in-game data to Excel Spreadsheet & performed data cleaning and feature engineering in Python
- Implemented SVM, KNN, Random Forest and Logistic regression models to predict game outcomes using Sklearn
- Evaluated models over real-time data; best model had a 43% Accuracy with 4.5% standard deviation over 10 games. The 10% increase on the 33% random prediction probability of success aided in the progression of the upcoming team

PROJECTS (GitHub above)

Personal Website
April 2022 – April 2022

- programmed my personal website using HTML/CSS/Javascript from scratch to develop and showcase my skills

Armed Parcel Pad (Capstone)
September 2021 – April 2022

Creating a parcel pad meant to arm in 30 seconds and ring alarm if package is removed without disarming

- Employed the engineering design process with teammates to formulate design alternatives for 5 major design aspects and evaluate each alternative using design matrices and sensitivity analysis
- Selected suitable components, Designed PCB, and programmed MCU using C++ to meet the requirements set by clients; Used unit testing and integration testing to ensure a bug-free script
- Facilitated communication and collaboration between teammates to assure progress by fulfilling scrum-master position; Guided the team to meet 95% of sprint goal deadlines
- Implemented sound amplification system for 89 dB alarm; developed hardware and firmware for capacitive sensor

Image Classification Convoluted Neural Network (grade: 93%)
March 2022 – April 2022

- Built & programmed the whole pipeline of a 3 channel CNN deep learning model in Pytorch with 14 hidden layers to classify 32x32 pixel CIFAR-10 images into 10 labels
- Split the data into training batches and validation batches; Achieved a validation accuracy of 63%

Amazoom automated warehouse (grade: 106.5%)
November 2021 – December 2021

- Implemented a front-end GUI using ASP.NET MVC framework, CSHTML & SQL; functionality consists of a network of warehouses, shopping cart functionality, Administration portal, tiered authorization, and relational databases of carts, users, and items
- Programmed multi-threaded backend using C#; Implemented automatic robot delivery system, anti-collision system & battery dis/charge simulation
- Developed an algorithm to enhance truck delivery & restocking, warehouse mapping, and item placement by 50%
- Designed use-case, sequence & object interaction diagrams to illustrate software functionality

Smart Metal Detector (grade: 95%)
November 2020 – December 2020

- Built a low frequency metal detector to find and extract nearby metals using Colpitts oscillator
- Programmed firmware and user interface in C to toggle the deployment of features
- Optimized to analyze detected signals and distinguish between different ferrous and non-ferrous metals

ENGINEERING STUDENT TEAMS

UBC Rocket Student Design Team
September 2019 – September 2021

- Designed and assembled test stand for liquid engine hot fires; Prototyped components using SolidWorks
- Employed a test-driven approach while cooperating with project managers and other members; Identified potential problems and recommend suitable solutions