Gosha Dulkin

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Education

McMaster University Hamilton, Canada
Engineering Physics (B.Eng) Sep. 2018 - Apr. 2023

- **Courses**: Object-Oriented Programming, Data Structures & Algorithms, Microcontroller Embedding

Skills

Languages Python, Java, C, C++, JavaScript, HTML/CSS, MATLAB, SQL, Bash
Tools Git/Github, Linux, Flask, Pytest, OpenCV, Numpy, Pandas, Microsoft Office

Experience

Coordinate Industries Ltd. Oakville, Canada
Electrical Engineer Intern Aug. 2021 - Aug. 2022

- Developed internal wire harness test programs, resulting in a **150%** increase in product test rate.
- Reviewed customer requirements to develop **200+** electro-mechanical assembly control plans.
- Designed wiring diagrams, integrated harness assemblies and established efficient test beds.
- Leveraged **Python scripts** to automate file manipulation within the organization's system, reducing data entry time by more than **5 hours per week.**

McMaster Rocketry Team Hamilton, Canada
Flight Controls Team Lead Oct. 2020 - Sep 2021

- Led a team of four in developing a flight computer module for a competition model rocket.
- Programmed and tested payload sensors and transceiver, resulting in a **200%** successful launch rate improvement from previous year.
- Gathered rocket flight data through an **Arduino controller** using the I2C communication protocol.
- Onboarded and trained new team members to facilitate a smooth integration into the team.

Projects

KinoStats | GitHub

- Developed a **Flask** web app allowing users to upload their Letterboxd data and gain insights into their movie-watching habits through an interactive dashboard.
- Utilized the **TMDb (The Movie Database) API** to acquire and visualize data such as film distribution by year, genres, spoken languages, and top directors.

Digital Chessboard | Demo

- Designed a digital chessboard, that allows users to play remote games with physical chess pieces.
- Implemented Python **OpenCV computer vision** to store the board state and relay piece movements to a custom chess engine.

PathFinder | GitHub

- Created a **Python application** that visualizes three pathfinding algorithms: BFS, DFS, and A*.
- Users are able to place start, end, and barrier nodes on an interactive **Pygame** grid and observe how each algorithm navigates through the grid.

Power Plant Control System

- Utilized **embedded C programming** to manage system control for a simulated power plant.
- Effectively troubleshot software to optimize system performance and reduce signal overshoot.