

# Wissam Mantash

## Junior Software Developer

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### EDUCATION

**McGill University** | GPA: 3.90/4.0  
*Bsc. Mathematics and Computer Science*

May 2019 – Apr 2023 | Montreal, QC

### WORK EXPERIENCE

#### Matrox

Jan 2022 – Aug 2022 | Dorval, QC

*Software Development Intern*

- Automated setup and dependency installations to simplify the incorporation of a python-based AI localizer into a C++ project, which decreased setup time by 50%.
- Optimized code reading accuracy by incorporating AI based localizer to bound the target code.
- Utilized Gaussian pyramids to test the capabilities of the AI based localizer.
- Improved systematic tests by adding visualization to aid in evaluation of 1D and 2D code reading accuracy.
- Refactored image augmentation code by encapsulating image augmentation features, ensuring modularity and extensibility.
- Designed a database which allows users to query by code type as well as custom queries without any knowledge of SQL.

#### SpiderSilk

May 2021 – Sep 2021 | Dubai, UAE

*Software Development Intern*

- Designed and coded a large scale image similarity search program to search for company logos in large databases of over a billion images.
- Utilized a combination of common indexing methods such as PCA, IVF, and PQ to improve search speed by over 100 times which enabled scaling of the project to large datasets.
- Extracted metrics including recall and mean average precision (mAp) to properly evaluate the similarity matcher, achieving an mAP of 0.94.
- Increased mean average precision by 22% by utilizing HSV as an image representation instead of RGB.

#### McGill University

May 2020 – Dec 2020 | Montreal, QC

*Research Assistant*

- Collaborated with my team using a variety of tools including git and Slack to develop the meta-reasoner layer of a robot responsible for spatial and temporal awareness.
- Explored new libraries such as JavaFX to simulate the robot's movements allowing me to test the meta-reasoner layer without physical access to the robot.

### PROJECTS

#### Style Transfer Neural Network

- Built an art style transfer neural network using convolutional neural networks VGG19 and ResNet50 to compare their ability to transfer art styles

#### Multi-layer Perceptron

- Designed and coded a Multi-layer perceptron that recognizes emnist dataset with 97.7% accuracy and a training time of 4 minutes, to explore the effects of various parameters on network accuracy.

### SKILLS

#### Languages

Python, Java, C++, C, SQL, HTML, CSS, Bash, Unix,  
Assembly Language, OCaml

#### Tools

MySQL, AWS, Git, LaTeX, UNIX/LINUX

#### Python Libraries

NumPy, Pandas, PyTorch, SciPy, TensorFlow, Scikit-learn