Francis Madarang

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Work Experience

Huawei May 2024 – Aug. 2024
Software Engineer Intern - Distributed Database *Markham, ON*

- Collaborated in parallelizing **SQL database queries** for mass querying, resulting in **3x faster** throughput.
- Developed functionality for viewing runtime data for parallelized operations, increasing **productivity by 150%.**
- Constructed algorithm for modifying query plan during execution, resulting in **2x faster query execution.**

Code Ninjas July 2022 – Sept. 2022
Coding Instructor *Richmond Hill, ON*

- Taught classes of up to 20 how to code in **Python, Java and Lua,** with an **assessment rate of 80%.**
- Architected curricula based on the varying skill levels, increasing **student and parent satisfaction by 25%.**

Skill Summary

Languages: C/C++, Java, Python, JavaScript (TypeScript), HTML/CSS
Developer Tools: Git, Docker, Kubernetes, AWS (EC2), Apache, UNIX, Figma, VSCode, gdb
Libraries/Frameworks: Django, React, TailwindCSS, NumPy, Tensorflow, scikit-learn, OpenCV

Education

University of Waterloo - GPA: 3.99 Waterloo, ON
Bachelor of Computer Science (Co-op) *Sept. 2023 – Present*

- **Current Coursework:** Data Structures, Compilers, Statistics, Android Development, Graph Theory
- **4.0 Major GPA,** with **A+** in OOP, Computer Organization, Linux & C/C++ Software Engineering Tools, Functional Programming, Imperative Programming, and Statistics

University of Toronto (St. George) - GPA: 4.0 Toronto, ON
Bachelor of Science in Computer Science (Specialist) *Sept. 2022 – Present*

- **Scholarships:** Dr. James A. & Connie P. Dickson Scholarship, Reuben Wells Leonard Scholarship
- **A+** in **Machine Learning**, Linear Algebra, Calculus I-IV (Proofs), Foundations of CS I & II

Projects

KNN-ections | *Python, NumPy, PyTorch, sklearn, NLP, Machine Learning* Jul. 2024 – Aug. 2024

- Constructed model to guess groups in **New York Times's connections** with **85% success rate.**
- Leveraged **SVD** to decrease dimensionality of **word embeddings**, resulting in **500% improved guess rate.**
- Trained **neural network** to treat dimension reduced words for clustering, increasing **guess rate by 300%.**

Monopoly | *C++, OOP* Mar. 2024 – Apr. 2024

- Implemented a graphical, fully functional Monopoly game using various **OOP** techniques.
- Exclusively used **smart pointers** to manage memory, resulting in a **100% memory safe program.**
- Allowed for easy integration of new features using virtual functions and UML diagrams.

AIPlay4U | *C++, OpenCV, React, Vite, TailwindCSS, OOP, Data Structures* Dec. 2023 – Present

- Crafted block coding tool with computer vision features using **React**, saving users **3 hours a day** on average.
- Created **interpreted scripting language** for users who prefer text-based programming.
- Trained object detection cascades for common objects using **OpenCV** with **90% test accuracy.**

Sinnoh Stores | *React, TailwindCSS, Next, Django* Sept. 2023 – Oct. 2023

- Composed a **mobile friendly, interactive** e-commerce app using **Figma, React.js and TailwindCSS.**
- Created **API and database** to serve and store shop and user session information using **Django.**
- Guaranteed security of sensitive user information using **hash encryption** on API calls.