ANTHONY COLAIACOVO

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EDUCATION

University of Guelph   Expected May 2024
Hon. Bachelor of Computing   Guelph, ON
Major: Computer Science
Minor: Biology

SKILLS

Languages: C, C++, Python, Java, JavaScript, Objective-C, SQL, Bash
Technologies: CUDA, OpenCL, Metal, pthreads, OpenMP, MPI, jQuery
Tools: Git, Linux, Valgrind, GNU Make, Gradle, JUnit, Docker

EXPERIENCE

Undergraduate Research Assistant   May 2023 - August 2023
University of Guelph   Guelph, ON

- Refactored an OpenCL (C++) project that uses a stochastic model to simulate processes in population genetics and molecular evolution over millions of generations
- Ported the refactored project to other GPU compute frameworks such as CUDA (C++) and Metal (Objective-C++)
- Created 7 Python scripts to verify simulation results, such as validating the distribution of sites within a genome affected by mutation
- Created 3 Python scripts to automate part of the testing process, allowing for 37 different datasets to be run with with one command, rather than one at a time

Head Teaching Assistant (CIS 2500, Intermediate Programming)   January 2023 - April 2023
University of Guelph   Guelph, ON

- Developed automatic grading software in **Python** and **C** that was used to grade the assignments of over **300** students
- Presented a lecture to students about how to use Git and GNU Make alongside another TA
- Taught intermediate programming concepts (dynamic memory management, pointers, data structures, sorting algorithms) to students in C
- Led 3 lab sections containing approximately 35 students each alongside another TA

Teaching Assistant (CIS 1300, Programming)   September 2022 - December 2022
University of Guelph   Guelph, ON

- Created Bash scripts to **automate** user input when grading assignments, leading to a significant increase in marking speed among all TAs
- Taught beginner programming concepts (arrays, loops, functions, files, pointers) to students in **C**
- Taught students how to use the Linux command line for software development and file management
- Led 3 lab sections containing approximately 40 students each alongside another TA

Teaching Assistant (CIS 1050, Web Design and Development)   May 2022 - August 2022
University of Guelph   Guelph, ON

- Graded and provided feedback for assignments written in HTML and CSS
- Encouraged by the professor to TA the class again in the future

PROJECTS

SDF-Molecule-Viewer | *C, Python, JavaScript, SQL*   Repository ⧉

- A full-stack web application made with a C/Python backend, Python server, and SQLite database for displaying and storing molecule data
- Allows the user to upload SDF files, and an SVG rendering of the molecule will be generated and saved at their request
- Makes use of jQuery to send data to the Python server
- Makes use of regular expressions to parse the SDF files