Iain Tierney

Personal Website | Github
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EDUCATION

UNIVERSITY AT BUFFALO
May 2022 | Buffalo, NY
Major: Computer Science B.S.
Cum. GPA: 3.88 / 4.0
Major GPA: 3.96 / 4.0
Honors: Deans List

RELEVANT COURSES

UNDERGRADUATE
- Software Engineering
- Algorithms and Complexity
- Systems Programming
- Discrete Structures
- Data Structures
- Computer Organization
- Linear Algebra

WORK EXPERIENCE

UNIVERSITY AT BUFFALO
Research, Space Tether-Net Simulation
Jan 2021 - Present | Buffalo, NY

- Real-time simulation of tether-nets to capture and remove space debris.
- Improve simulation speed by implementing parallelization in C++ as well as implementing version control.
- Leverages Vortex Studio to implement a GUI for the real-time physics simulation.

UNIVERSITY AT BUFFALO
Teaching Assistant
Jan 2020 - May 2020 | Buffalo, NY

- Led groups of students through Python projects using quantitative analysis.
- Led lab sections and office hours as well as proctored exams.

TOWN OF SOMERS
Data Coordinator Intern
May 2019 – August 2019 | Somers, NY

- Improved data storage by implementing a sorting algorithm to find site users based upon various data points.
- Digitized data as CSV files using Python and stored physical files.

PROJECTS

View More Projects

HEALTH FITNESS APP | View Project
September 2020 - Current

- Built with Python, Flask, Vue, JavaScript, HTML5/CSS3, Heroku, AJAX, SQLite, Nix and Git with an agile(scrum) team.
- Incorporated persistent data storage and user accounts to keep track of users nutrition and health, allow users to share fitness tips and feats, calculate various body-health measurements, and more.
- Integrated SQLAlchemy to convert the database schema into python classes to be used as tables.

SORTING VISUALIZER | View Project
September 2020

- Built with jQuery, Bootstrap and HTML5/CSS3 to visualize, pause, and control the speed of various sorting algorithms.
- Implemented Quick sort, Bubble sort, Selection sort and Insertion sort.
- Developed an algorithm to control the speed of the visualization with your mouse location.

AUDIO VISUALIZER | View Project
August 2020

- Built with AJAX, SoundCloud API, jQuery, Bootstrap and HTML5/CSS3 to visualize audio tracks using their respective frequencies.
- Sent GET requests to the SoundCloud API to allow users to search for a song and enjoy the real time visualization.
- Developed a 2D visualization with HTML5 canvas allowing for a refresh rate of 60 times per second.

DYNAMIC MEMORY ALLOCATOR | View On Github
April 2020

- An implementation of malloc(), calloc(), realloc(), and free(); built with C and tested with Makefile.
- Capable of running many single-threaded Linux applications.
- Utilizes Multi-pool allocation to efficiently use the system call for requesting memory blocks from the operating system.

SKILLS

Proficient with:
C++ • Python • JavaScript • Scala • Git • Bootstrap • HTML5
CSS3 • Agile(Scrum) • jQuery • Flask • JSON
Familiar with:
MySQL • Vue • React • C • Java • Assembly (MIPS)