[GitHub](#)
[Personal Website](#)

IAIN TIERNEY

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EDUCATION

Buffalo, NY   **University at Buffalo**   **Aug 2018 – May 2022**
- **Major:** Computer Science, B.S. **| GPA:** 3.8/4.0 **| Honors:** Dean's List
- **Relevant Coursework:** Software Engineering, Algorithms and Complexity, Data Structures, Discrete Structures, Systems Programming (Distributed Systems), Computer Organization, Object Oriented Programming (OOP)

EXPERIENCE

Software Engineer, Intern   **NASA Jet Propulsion Laboratory**   **June 2021 – Present**
- Leading the development of an upcoming new Angular application to explain the actions of an autonomous spacecraft
- Establishing a remote testing and development environment in AWS using Docker and bash scripts
- Reducing time to interpret mission data by approximately 50% by creating an improved GUI for downlinked data
- Implementing UI designer's mockups of new interfaces to visualize various data points of a spacecraft during flight

Research, Space Net Simulation   **University at Buffalo**   **Jan 2021 – Present**
- Improved simulation data collection by 15 times by implementing parallelization in C++ with Windows executables
- Led a team of researchers to integrate version control (Git) with various simulation models
- Only undergraduate CS student selected to work on this research of capturing space debris in orbit with nets

Teaching Assistant, Intro to CS   **University at Buffalo**   **Jan 2020 – May 2020**
- Led a group of 15 students through CS fundamentals and algorithm basics with Python projects
- Hosted lab sections and office hours as well as proctored exams for 80 students

Data Coordinator, Intern   **Town of Somers**   **May 2019 – Aug 2019**
- Improved data storage by utilizing a sorting algorithm to query hundreds of users based upon various data points
- Automated user scheduling updates by creating an automated daily email
- Implemented various user flags to store and sort them in CSV files

PROJECTS

[View More Projects](#) *(personal website to view more projects and info)*

PicToCartoon: Convert a Picture into a Cartoon Drawing with Artificial Intelligence | [View](#) *(please be patient w/ page load)*
- Utilized TensorFlow 2 Neural Networks to create a RESTful API and web app that detects objects, matches an object to a cartoon drawing, and provides an animated cartoon sketch
- Incorporated caching to implement an efficient query system for QuickDraw Bin files and limit GET requests
- Developed an algorithm to transform and normalize stroke coordinates to be drawn onto an HTML canvas
- Built With: Python, OpenCV, JavaScript, Flask, TensorFlow 2 Object Detection API, QuickDraw API, AJAX, Heroku

Health and Fitness Tracker Dynamic Web App | [View](#) *(please be patient w/ page load)*
- Created a RESTful API with persistent data storage and user accounts to keep track of a users' nutrition and health, use a chat app built with a distributed system, calculate various body-health measurements, and more
- Integrated SQLAlchemy and developed a database schema to create an SQLite relational database
- Built With: Python, JavaScript, Flask, Vue, HTML5/CSS3, Heroku, AJAX, SQLite, Git with an Agile (scrum) team

Sorting Visualizer | [View](#)
- Implemented multiple sorting algorithms including Quick sort, Bubble sort, Selection sort and Insertion sort
- Engineered an algorithm using JavaScript Async/Await and Promises to control the speed of the visualization
- Built With: JavaScript, jQuery, Bootstrap, HTML5/CSS3

Audio Visualizer | [View](#)
- Designed an algorithm with a Fourier transform on SoundCloud audio slices to create a 2D visualizer that manipulates shape radius, depth, and location
- Implemented a URL and keyword search to display relevant results using the SoundCloud RESTful API
- Built With: AJAX, SoundCloud API, Web Audio API, JavaScript, jQuery, Bootstrap, HTML5/CSS3

SKILLS

Proficient: Python, JavaScript, Angular, jQuery, HTML5/CSS3, Git, Flask, Agile(Scrum), Linux
Familiar: Scala, Docker, C, C++, MySQL, SQLite, Vue