Thomas Ottaway thomas_ottaway@brown.edu · (518) 466–9711 · Github

Education

Brown University Providence, RI
Applied Math–Computer Science · GPA: 4.0 *May 2022 (Expected)*

- **Technical Coursework:** Operating Systems · Sublinear Algorithms for Big Data · Dynamical Systems · Control Theory · Distributed Systems · Graduate Algorithms Seminar · Convex Optimization · Information Theory · Probability and Statistics
- **Teaching Assistant:** Discrete Math (Spring 2020, Spring 2021)

Work Experience

Neocis Inc (C++) Miami, FL
Intern *May 2021 – Aug 2021*

- TBD
- TBD
- TBD

Draper Laboratories (Python, C++) Cambridge, MA
Engineering Intern *Jun 2020 – Aug 2020*

- Developed and implemented a search algorithm using a particle filter and information-theoretic search heuristics
- Applied the search algorithm to determine locations and properties of radioactive and gaseous hazards using a mobile sensor
- Implemented improved simulations for gaseous plumes

NYS DOH/Health Research Institute (Python, SQL, JavaScript) Albany, NY
Software Developer Intern *Jul 2018 – Jun 2020*

- Migrated an application critical to the COVID-19 response effort from an Oracle back end to SQL Server
- Created systems to import patient identifying information as CSVs which drastically reduced data entry times
- Developed Python scripts to pre-process laboratory instrument data and perform automated regression testing
- Interfaced with a legacy database containing 200+ tables

LingView (JavaScript, Node.js, React) Providence, RI
Developer *Sep 2018 – May 2019*

- Built a front-end interface for viewing and searching through a linguistic corpus

Projects

OS Kernel (*Jan 2020 – May 2020*) – Built a kernel in C with a scheduler, TTY driver, S5FS file system, and virtual memory as part of a course on Operating Systems.

Ball Balancing (*May 2020*) – Built a high fidelity simulation of a table with two axis of rotation balancing a ball in C++. Implemented a number of features from scratch, including a rigid body physics engine, simulated raytraced camera, image processing pipeline (OpenCV), Kalman filter, and tuned PID controller.

Music Visualizer (*May 2020*) – Built a music visualizer in Python using Fourier transforms.

Neural Nets for Solving ODEs (*Aug 2019*) – Implemented algorithms from this paper in Python.

Rocket Stabilization (*Apr 2019 – May 2019*) – Final group project for Nonlinear Dynamical Systems. Studied a thrust vector controlled rocket in two dimensions and discovered bifurcations as the PD controller parameters were varied.

Skills

Programming Languages – Python, C++, C, JavaScript, Go, SQL, MATLAB

Frameworks/Tools – Numpy, Matplotlib, ROS, PyQtGraph, Django, SQLServer, Oracle, PyTorch, Gazebo

Activities

Juggling, running, rock climbing, cooking, blues dancing, unicycling, bicycling, playing piano