
EDUCATION

Harvey Mudd College

B.S. Computer Science + Math

Claremont, CA

2021 - 2025

- Braitenberg Vehicle Simulation Researcher @ ALPAQA Lab, Model Amateur Rocketry Club, Philosophy Concentration

Hunter College High School

New York, NY

- Competitive Programming Team President, Math Modeling Team Co-President, CS 9 Teaching Assistant, Science Research Programming Teaching Assistant, Data Analytics class co-teacher, Robotics Programming class co-teacher

EXPERIENCE

AllianceBernstein

Data Visualization Intern

New York, NY

Jun 2021 - Aug 2021

- Designed and built internal-facing Transaction Cost Analysis visualization dashboard and interactive data retrieval tool to generate quantitative insight for expense minimization on billions of dollars in company equities and futures trades.
- Balanced incoming requirements from multiple internal clients for weekly releases, led feature demos and priority scheduling.

GetUsPPE

Lead Data Manager of Affiliate Relations

Remote

Apr 2020 - Dec 2020

- Coordinated data exchange between +80 affiliates to expand the world's largest nongovernment database of medical shortage.
- Develop a data-driven equity algorithm to guide strategic distribution of PPE to the most undeserved communities.

Operations Product Manager

Dec 2020 - Jun 2021

- Served as a liaison between Development and Operations departments to coordinate and create the technology behind the successful emergency donation of +17 million units of PPE to thousands of frontline healthcare facilities nationwide.
- Workshop and prioritize feature requests under Agile framework, fulfill ad-hoc tickets for HR, Grants, Makers departments.

Loverde Laboratory - College of Staten Island

Summer Software Researcher

New York, NY

Jul 2019 - Aug 2021

- Developed a generalized algorithm to coarse-grain atomistic chemical models within minimum theoretical computational complexity. Configured algorithm to interface with auxiliary scripts to parameterize peptide simulations for research grants.

FIRST Robotics - RoHawks 3419

Programming Capitan, Scouting Capitan

New York, NY

Sep 2018 - Jun 2021

- Led software development operations and worked with team to program a multi-actuator terrestrial swerve-drive robot with autonomous and teleoperated modes. Recruited and trained new developers in robotics programming and data analytics.
- Spearheaded initiative to overhaul scouting operations by digitizing and automating data collection. Built an interactive strategic analysis dashboard including a predictive model for competitive performance and matchup bias calculation system.

Board President

Sep 2020 - Jun 2021

- Trained, advised, and directed team's 16 member administrative board of finance, outreach, treasury, and media managers.
- Established two lasting outreach programs to bring STEM education to local public schools, raised +\$50,000 in funding.

PROJECTS

Sort Visualizer: Interactive visualization of sorting algorithm read and swap computational complexity from scratch

Inertia Sandbox: Realtime Physics custom scenario sandbox demonstrating mechanical properties of reference frames

Epidemic Simulator: Interactive model of the effect behavior and transmissibility have on the spread of an epidemic

Links: <https://forrestbicker.github.io/SortVisualizer/>, <https://forrestbicker.github.io/InertiaSimulator/>, <https://forrestbicker.github.io/EpidemicSimulator/>

SKILLS

Languages

Python, Java, JavaScript, TypeScript, Tcl, C++

Data

Pandas, Microsoft Excel, Google Sheets, SQL, AirTable

Technology

VMD, L^AT_EX, Dash/Plotly, Keras/TensorFlow, OpenCV, Selenium

AWARDS

Computer Science: American Computer Science League Finalist, HCHS Computer Science Award, USACO Silver

Math: Modeling The Future National Finalist and Symposium Presenter, ATMNYC Certificate, Harry D. Ruderman Book Award

Academic: National Merit Scholar, Joseph James Morelli Scholar, Conrad Spirit of Innovation International Finalist and Speaker