Elias A. Berkowitz

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Education

- **Brown University**: Providence, RI — Sep 2015 - May 2019
  Bachelors of Science in Applied Mathematics

Projects

- **Benchling**: Built a tool to help customers visualize the layout of their biological data. The tool is a dynamic entity relationship diagram, allowing users to view the tables and foreign-key relationships in their user-facing database. Built with Python, Postgres, GraphQL, Typescript, React, and SVG.
- **Bard College Citizen Science**: Wrote a web application to allow several hundred students and faculty to upload, manage, and query scientific images and observations. Used Flask hosted on Google Cloud Platform (App Engine, Cloud SQL Postgres, Storage) and ArcGIS for data visualization.
- **Brown University Grading App**: Wrote software and a web application to manage assignment hand-in and grading for computer science courses at Brown, used by over 500 students in three different courses. Built with Python (Flask).
- **Rocketry**: Helped start a rocketry club at Brown. Worked on a controller to actuate fins to stabilize the rocket and deploy a parachute at apogee (Arduino). Wrote a web app to facilitate testing different custom-made motors on a thrust test stand (Raspberry Pi, Flask).
- **Exosim**: Wrote an exoplanet simulator (exosim.netlify.com). Used to-scale physics and 3D rendering to show planetary systems and star light curves as planets obscure them. Allowed customized stars, planets and moons. Built with P5.js.

Work Experience

- **Software Development Intern** — Apr 2020 - Current
  Benchling — *San Francisco, CA*
- **Software Developer** — Sept 2019 - May 2020
  Bard College Citizen Science — *Annandale-on-Hudson, NY*
- **Head Teaching Assistant, Brown University** — Jun - Dec 2018
  CSCI 0111 - Computing Foundations: Data — *Providence, RI*
  - **Course development**: Developed assignments for a new introductory computer science course at Brown.
  - **Leadership**: Co-led a team of undergraduate teaching assistants.
  - **Student Feedback**: Received positive feedback from students. Personally scored 1.21 with 1 being the highest score and 5 being the lowest. Course received a 1.48. Written feedback available upon request.
- **Teaching Assistant, Brown University** — 2017 - 2019
  Computer Science Department
  - **CSCI 0170**: Computer Science: An Integrated Introduction (part 1). — Fall 2017
  - **CSCI 0050**: A Data-Centric Introduction to Programming. — Summer 2018
  - **CSCI 0180**: Computer Science: An Integrated Introduction (part 2). — Spring 2019
- **Mentor, Trip Leader, Manager** — Jan 2017 - May 2019
  Brown Outdoor Leadership Training (BOLT), Brown University
  - **Mentor**: Trained leaders in facilitation, mentorship, and technical skills to lead backpacking trips (2018, 2019).
  - **Leader**: Received 200 hours of training to lead a 5 day backpacking trip with 8 college students.
  - **Research**: Implemented a numeric stochastic differential equation solver to extend the ocean Stommel model.
- **Research Experiences for Undergraduates Student Intern** — Jun - Aug 2016
  LIGO Scientific Collaboration, Louisiana State University, Dr. Gabriela Gonzalez (mentor) — *Baton Rouge, LA*
  - **Data analysis**: Characterized transient noise in the LIGO detectors.
- **Information Technology Intern** — Jun 2015 - Sep 2015
  Oakwood Friends School — *Poughkeepsie, NY*

Skills

- **Programming Languages**: Python, Javascript/Typescript, Java, Scala, MATLAB, Bash, Arduino (C).
- **Frameworks**: Google Cloud Platform, React, Flask, Postgres, GraphQL, Git,, Docker, p5.js, jQuery, LaTeX.
- **Languages**: English (native), Portuguese (advanced), German (beginner).
- **Music**: Piano (classical), Flute (classical).