

Vinay Bhaip

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github.com/vbhaip

EDUCATION

- **University of Virginia** Charlottesville, VA
Computer Science, Mathematics; GPA: 4.0 *Expected Graduation May 2023*
 - **Activities:** Echols Scholar (Top 5% in college), Jefferson Debate Society, Solar Car Team, Open Data Project.
 - **Relevant Coursework:** Data Structures, Algorithms, Theory of Computation, Data Visualization, Computer Architecture, Software Development, Discrete Math, Linear Algebra.
- **Thomas Jefferson High School for Science and Technology** Alexandria, VA
Computer Systems Research; GPA: 4.5 *Sep 2016 – Jun 2020*

EXPERIENCE

- **Chartbeat** New York City, NY
Software Engineer Intern *Jun 2021 - Aug 2021*
 - **Data Warehouse Migration:** Evaluated Redshift, BigQuery, and Snowflake to consolidate data warehouse reducing annual costs by more than 50%, optimizing rollup queries and migrating historical data.
 - **Data Pipeline Modernization:** Enhanced backend pipeline for core product to send raw data to clients by processing and unloading Snowflake data to S3.
- **Howard Hughes Medical Institute** Ashburn, VA
Computational Biology Intern; Machine Learning Intern *Jun 2019 - Aug 2020*
 - **Behavior Analysis:** Identified decision-making regions of the fly brain, measured by a ~84% accurate novel ensemble machine learning model, using computer vision to analyze results. Second place in Virginia Science Fair.
 - **Protein Synthesis:** Correlated possible calcium indicators of neural activity to likelihood of success, measured by Spearman's ρ of ~0.7, by developing transformer machine learning model.
- **Phone2Action** Rosslyn, VA
Civic Tech Engineering Fellow *Jun 2018 - Aug 2018*
 - **Facebook Messenger Bot:** Expanded on award-winning hackathon project, developing a chatbot to connect users to grassroots campaigns using natural language processing. Released first-ever advocacy chatbot to clients.

ACCOMPLISHMENTS

- **HackNY Fellow:** Joined community of fellows (<1% acceptance rate) to learn about NYC startup ecosystem and engineered real-time dashboard for OpenAQ, a non-profit democratizing air quality monitoring.
- **UVA Hackathon:** Built video lecture summarizer (lecturenoted.tech) using NLP, winning best educational hack.
- **Stanford TreeHacks:** Developed machine learning powered posture correction system, winning grandprize in healthcare category at hackathon with roughly 2000 participants.
- **2x AIME Qualifier:** Qualified by placing in top 5% in nation for American Invitation Mathematics Examination.
- **HackTJ:** Developed an integrated code-teaching platform for students. Received Overall Best Beginner Application, 3rd place for Palantir Social Impact Award, and top 10 Big Parser API Usage.

PROJECTS

- **St. Mary's County Air Quality Dashboard:** A county-wide dashboard showing live and historical air quality data, built with React and D3. Collaborated with teachers to integrate features to get raw data for lesson plans.
- **Ranked Choice Voting Visual Exploration:** An exploratory data visualization built with D3 simulating political elections based off real ranked choice voting results from elections.
- **HelioHex:** A highly-configurable lighting piece that syncs to Spotify with a custom web-app controller. Uses Flask as an API on Raspberry Pi to control lights, processes in parallel in Python.

PROGRAMMING

- **Languages:** Python, Java, C++, Javascript, SQL, HTML, CSS, LaTeX.
- **Libraries:** React, D3.js, Keras, Scikit-learn, TensorFlow, NumPy, OpenCV.
- **Technologies:** Linux, Bash, Git, Flask, Firebase, Heroku.