# Vinay Bhaip

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github.com/vbhaip

## EDUCATION

**University of Virginia** — Charlottesville, VA
*Computer Science, Mathematics* — *Expected Graduation May 2023*
- **Activities**: Echols Scholar (Top 5% in college), Jefferson Society, Solar Car, Cavalier Daily, Data Science Club.

**Thomas Jefferson High School for Science and Technology** — Alexandria, VA
*Computer Systems Research; GPA: 4.5* — *Sep 2016 – Jun 2020*
- **Relevant Coursework**: AP Computer Science + Data Structures, Artificial Intelligence, Parallel Computing, Web Development, Mobile Development, Computer Vision, AP Physics, Linear Algebra.

## EXPERIENCE

**Howard Hughes Medical Institute** — Ashburn, VA
*Jayaraman Lab Intern; Looger Lab Intern* — *Jun 2019 - Aug 2020*
- **Behavior Analysis**: Identified decision-making regions of the fly brain, measured by a $\sim$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 Pearson's $\rho$ of $\sim$0.7, by developing transformer machine learning model.

**Phone2Action** — Rosslyn, VA
*Civic Tech Engineering Fellow* — *Jun 2018 - Aug 2018*
- **Facebook Messenger Bot**: Expanded on winning hackathon project, developing a chatbot to connect users to grassroots campaigns using natural language processing. Released first-ever advocacy chatbot to clients.

## ACCOMPLISHMENTS

- **Apple FCU Scholar**: Selected from hundreds of applicants for academic performance and community service.
- **2x AIME Qualifier**: Qualified by being in top 5% in nation for American Invitation Mathematics Examination.
- **HackTJ 2019**: Created parser to turn physical objects into runnable code using computer vision. Best Design Award.
- **HackTJ 2017**: Developed an online platform teaching students to learn how to code, which incorporated a forum space, a tool that troubleshoots code by scraping data online, and an API for basic programming. Received Overall Best Beginner Application, 3rd place for Palantir Social Impact Award, and top 10 Big Parser API Usage.

## LEADERSHIP

**Machine Learning Club**
*Captain, Teaching Coordinator* — *Sep 2018 – May 2020*
- **Lecturing**: Taught machine learning concepts, writing original lectures in topics like Recurrent Neural Networks and Adversarial Neural Networks, to nearly 60 students every week.

**Lincoln-Douglas Debate Team**
*Captain, Teaching Coordinator* — *Sep 2018 – May 2020*
- **Leading**: Led team by teaching techniques in oration and applications of philosophies to public policy.
- **Volunteering**: Co-taught 30 students about debate fundamentals and ran tournament at local middle school.

**Summit For Future Innovators**
*Co-founder* — *Oct 2018*
- **Organizing**: Coordinated day-long event for 100 middle schoolers to engage in interactive STEM workshops.

## PROGRAMMING

- **Languages**: Python, Java, SQL, C++, Javascript, HTML, CSS, LaTeX.

- **Libraries**: Keras, Scikit-learn, TensorFlow, NumPy, OpenCV, D3.js.

- **Technologies**: Linux, Bash, Git, Flask, Firebase, Heroku.