

# Vinay Bhaip

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github.com/vbhaip

## EDUCATION

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- **Thomas Jefferson High School for Science and Technology** Alexandria, VA  
*Computer Systems Research; GPA: 4.404* Sep 2016 – Jun 2020
  - **Relevant Coursework:** AP Computer Science + Data Structures, Artificial Intelligence, Parallel Computing, Web Development, Mobile Development, Computer Vision, AP Physics.

## EXPERIENCE

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- **HHMI's Janelia Research Campus** Ashburn, VA  
*Jayaraman Lab Intern* Jun 2019 - Present
  - **Behavior Analysis:** Trained machine learning model on extracted features to classify fly gap crossing attempts.
- **Phone2Action** Rosslyn, VA  
*Civic Tech Engineering Fellow* Jun 2018 - Aug 2018
  - **Facebook Messenger Bot:** Expanded on winning HackTJ 2018 Project working on a chatbot to connect users to local politicians using natural language processing.

## PROJECTS

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- **SeizureSight:** Created one of the first models to predict types of seizures based off electroencephalographic data. Performs a multitaper transformation and achieves 91.24% accuracy on seizure classification.
- **Low Cost Glaucoma Detection:** Created a convolutional neural network to detect the presence of glaucoma in fundus images. Modeled an Android phone app to detect glaucoma, based off results from convolutional neural network.

## ACCOMPLISHMENTS

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- **AIME Qualifier:** Qualified by being top 5% in nation for American Invitation Mathematics Examination.
- **HackTJ 2019:** Developed parser to turn physical coding blocks into runnable code using Computer Vision. Won Best Design Award.
- **BioCode:** Achieved 2<sup>nd</sup> place in computer science competition using algorithms to solve problems in Bioinformatics.
- **HackTJ 2017:** Created 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, 3<sup>rd</sup> place for Palantir Social Impact Award, and top 10 Big Parser API Usage.

## LEADERSHIP

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- **TJ Machine Learning Club**  
*Captain, Teaching Coordinator* Sep 2018 – Present
  - **Lecturing:** Teach machine learning algorithms in theory and in practice to nearly sixty students every week.
- **TJ Lincoln-Douglas Debate Team**  
*Captain, Teaching Coordinator* Sep 2018 – Present
  - **Lecturing:** Teach debate and philosophies and help manage logistics of club.
  - **Volunteering:** Co-teach thirty students about fundamentals in debate at Eagle Ridge Middle School.
- **Summit For Future Innovators**  
*Co-founder* Oct 2018
  - **Organizing:** Planned and ran day-long event for middle schoolers to engage in interactive workshops in physics, aeronautics, chemistry, robotics, and programming.

## PROGRAMMING

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- **Languages:** Python, Javascript, Java, C, C++, HTML, CSS.
- **Libraries:** Keras, Scikit-learn, NumPy, OpenCV, OpenMP.
- **Technologies:** Linux, Bash, Git, SQL, Firebase.