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Vinay Bhaip

Projects

TJ Science Fair **Low Cost Glaucoma Detection** *November 2017 – January 2018*

- Created a convolutional neural network in Keras to detect the presence of glaucoma in fundus images
- Generated visualizations of model using Class Activation Maps (CAMs) and Saliency Maps to analyze areas that lend themselves to the presence of glaucoma
- Modeled an Android phone app to detect glaucoma, based off results from convolutional neural network

Personal Project **Personal Website** *December 2017*

- Designed and built a personal website from scratch during Winter Break 2017

Education and Experience

Alexandria, VA **Thomas Jefferson HS for Science and Tech** *August 2016 – Present*

- GPA: 4.253/4.0

Relevant Coursework: AP Computer Science + Data Structures, Artificial Intelligence 1 and 2, Parallel Computing, Mobile and Web Applications

Rosslyn, VA **Phone2Action** *June 2018 – August 2018*

- Expanded on winning HackTJ 2018 Project working on chatbot using natural language processing
- Wrote blog post for company on natural language processing using Recurrent Neural Networks

Awards

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, 3rd place for Palantir Social Impact Award, top 10 Big Parser API Usage

BioCode

- Achieved 2nd place in Bioinformatics computer science competition using algorithmic approaches toward the Biology field

TJ Machine Learning Club

- Learned fundamentals of machine learning techniques that are currently being used and the underlying mathematics
- Acquired a thorough understanding of machine learning techniques including random forests, support vector machines, neural networks, and object detection
- Ranked 1st place in school for competing in coding competitions, such as detecting breast cancer

FIRST Tech Challenge

- Competed in competition to create robot from metal to achieve certain tasks in a competition on a field, including an autonomous period and a driver controlled period
- Worked as the lead programmer on the team, creating algorithms in Java with Android Studios
- Achieved 1st place Design Award

Leadership

TJ Machine Learning Club *August 2018 - Present*

Teaching Coordinator

- Lecture to club of 60 students about machine learning algorithms
- Maintain TJ Machine Learning Club website

Lincoln-Douglas Debate Team *August 2018 – Present*

Teaching Coordinator

- Lecture about debate and philosophies and help manage club
- Co-teach 30 students about fundamentals of debate at Eagle Ridge Middle School

Skills

- Proficient in Java, Python, and HTML/CSS
- Experience in iOS development using Swift
- Understanding of machine learning algorithms and proficiency with libraries like Keras and Scikit-learn