

# Saivardhan Mada

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## Education

### **Georgia Institute of Technology**

May 2021

- Honors Program, Major: Computer Science

### **Thomas Jefferson High School for Science and Technology**

June 2017

- Governor's Regional School; Advanced Studies Diploma (2017)
- GPA: 4.23/4.0; National AP Scholar

## Experience

### **National Institute of Mental Health (N.I.H.)**

September 2016 – August 2017

*Research Intern, Neuroscience Department*

- Implemented Machine Learning algorithms (Random Forest) to find SNPs (Single Nucleotide Polymorphism) involved in ketamine response in OCD (Obsessive Compulsive Disorder) patients and antidepressant efficacy in Major Depressive Disorder

### **George Mason University – Krasnow Institute**

June 2015 – August 2015

*Research Intern, Neuroscience Department*

- Modeled Hippocampal CA1 Neurons utilizing Python with pyMoose package

## Projects

### **WeLocate**

October 2017

- Web application built using HTML, CSS, JavaScript, Yelp API, Amazon Web Services and Python
- Calculated informational statistics for small businesses and created a heat map of successful locations using a machine learning model (<https://welocate.now.sh/>)
- Won Most Disruptive Hack (Red Venture), Best Financial Hack (Capital One) - VandyHacks

### **Life Alert and New Motion Sensing Technology Mobile App**

February 2016

- Mobile application programmed to work with a motion sensor to automatically complete a series of tasks with simple hand gestures
- 2<sup>nd</sup> Place Award – TJ Hacks

## Awards and Honors

Regional Winner for Extemporaneous Speaking for Forensics Debate

March 2015, February 2016

Attained Silver Status in USA Computing Olympiad

December 2015, December 2016

Qualified for American Invitational Mathematical Exam

February 2016

## Activities and Membership

Emerging Leaders, Freshman Leadership Organization

August 2017-Present

Investment Committee, Georgia Tech Student Foundation

August 2017-Present

Captain of Speech and Forensics Team, TJHSST

September 2014 – June 2017

Computer Team, TJHSST

September 2013 – June 2017

- Participated in in-school coding competitions, lectured on computer science principles

## Technical Skills

- **Proficient:** Python, Java, & R
- **Knowledgeable:** HTML5, CSS, JavaScript

## Publications and Licenses

Pending Publication for Computational Model of CA1 Hippocampal Neuron

GNU License for Neuron Morphology Condenser and Converter

## Community Engagement

Volunteer Tutor at Prepare2Excel Center, Herndon, VA

Volunteer at Mercy Hospital Cancer Center, Mason City, IA

Volunteer at Insight Memory Care Center, Fairfax, VA

**How were you first introduced to Computer Science? How have you continued to develop your technical skills and sought additional exposure to the field?**

My introduction to Computer Science was similar to the beginning of Computer Science itself: 0s and 1s. I learned of Boolean logic and if and for loops when I first joined a simple coding club in sixth grade. Through this club I was also introduced into competitive coding competitions such as ACSL and learned different languages such as JustBasic and Python. Then my knowledge of Computer Science began to grow through classes I took in high school such as AP Computer Science, Artificial Intelligence, and Web Development. In APCS I learned Java and the basics of object oriented programming and data structures. During AI I learned how to build neural nets, basics of common machine learning models, and studied the interaction of humans and technology. I also ventured into how computer science was used in the real world through internships that involved machine learning and system modeling. First, during my internship at George Mason University I developed neuronal models from real scientific data using the pyMoose package in Python. I then continued to discover more of the animate through the inanimate using machine learning models to predict drug efficacy in Depression and Obsessive Compulsive Disorder.

**What is your strongest programming language? How much experience do you have using the language? Go into detail about how you used this technical language. If talking about a group project, be specific about your role in the final product. (Examples can include projects, coursework, competitions, websites, previous internships, etc.)**

My strongest programming language is Python and I have had quite a bit of experience using this language. I first started to use Python in seventh grade, but only for basics such as if and for loops. Then in high school I took accelerated computer science and in this class I learned much more about python and how to implement data structures using python. Furthermore, I continued to use python in classes such as AI and web to build models and to use as my backend for websites. One technical use of python that I am especially proud of is using python to create a neuron model condenser to save space and runtime while preserving chemical and electrical properties. The most recent use of Python that I helped to implement was during VandyHacks these past couple weeks to create a machine learning model with Amazon Web Services for our website.

**At Google, we believe that a diversity of perspectives, ideas, and cultures leads to the creation of better products and services. Tell us about your background and experiences and how they make you unique.**

I sat on my porch and watched the rising sun creep out from behind acres of corn. This was the view I greeted every morning during early years of my childhood. But it was not always the same, as I moved multiple times with my family. My first initial move was from Hyderabad to a small town in southern Virginia, it was a culture shock. I felt distant from my peers who had nothing in common with me. But it was those differences that brought us together thanks to a caring teacher who invited me to share my toys and games with the class. Eventually, empty weekends became filled with play dates during which I explored rivers and forests and played American board games, while teaching my new friends Indian games such as Cricket, Kancha, and Kapadi. Although later moves led me to other views including suburban homes and sounds of traffic from the busy road nearby, my first American friends remain my best friends. Their influence and my relocations, taught me that diversity is not a barrier but rather a bridge. And these unique qualities and views are what I will bring to Google.

**List the technical courses you'll be taking next semester. If you haven't registered for classes yet, please list the courses you plan on taking.**

- CS 1332 – Data Structures and Algorithms
- CS 2050 – Intro to Discrete Mathematics
- MATH 3215 – Probability and Statistics

- APPH 1050 – Science of Physical Action and Health
- PYSCH 2015 – Research Methods

**List any clubs and/or organizations that you participate in.**

Emerging Leaders, Freshman Leadership Organization (August 2017-Present)

Investment Committee, Georgia Tech Student Foundation (August 2017-Present)