Vedavyas Mallela

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Education

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science, Computer Science — *Expected May 2025*

- GPA: 3.5
- Intelligence and Theory Threads
- Relevant Coursework: Data Structures and Algorithms, Multivariable Calculus, Computer Organization and Programming

Experience

Research Intern — August 2020 - Present
MIT CSAIL — *Cambridge, MA*

- Optimized computer vision segmentation algorithms and software which help neuroscientists model brain structures and neurological pathologies.
- Developed BrainPainter, a brain visualization software, at the Medical Computer Vision group and worked with an international team of neuroscientists to develop our application to cater their needs. Maintain the project servers on the MIT.edu domain (brainpainter.csail.mit.edu)
- Created a 3D mouse brain visualization tool using the Blender graphics APi and Harvard Freesurfer. First authored research paper detailing the work we did there.

Student Assistant — September 2022 - Present
College of Computing, Georgia Institute of Technology — *Atlanta, GA*

- Developing web tools to help Georgia Tech research students in the Future Computing Rogues Gallery VIP program.
- Working with researchers at CRNCH (The Center for Research into Novel Computing Hierarchies)

Research Intern — April 2021 - August 2022
Harvard University Visual Computing Group — *Cambridge, MA*

- Researched visual tree comparison for medical applications (In Vitro Fertilization datasets). Worked with scientists at Harvard Medical School and Harvard LSP.
- Developed tools for binary tree juxtaposition and visualization. Used the Piling.js library to optimize tree clustering and implemented a zhang-shasha edit distance metric.

Research Intern — May 2020 - March 2021
Stanford University Electrical Engineering Department — *Stanford, CA*

- Developed an AI-based news application, targeted at region-specific COVID-19 news, and integrated plug-ins for the Stanford Big Local News platform.
- First authored a journal publication which detailed our team's efforts.
- Project led by Tsachy Weissman and Cheryl Phillips. Research started as a part of the Stanford Electrical Engineering STEM2SHTEM research internship program.

Projects

BrainPainter | *Blender API, Docker, FreeSurfer, TKinter, Kerberos* — August 2020 – Present

- BrainPainter is a software for visualizing brain structures with biomarker data.
- Developed a novel volumetric rendering for mouse brain visualization.
- First authored paper outlining our research into developing volumetric meshes with the Blender API and visualizing pathology progression.

COVerage | *Pytorch, Flask, Numpy, Tweepy, Google News API* — May 2020 – March 2021

- COVerage is an AI powered news application that compiles local news regarding the COVID-19 pandemic
- First authored journal paper overviewing our novel news ranking system catered to the COVID-19 pandemic.

Technical Skills

Languages: Python, JavaScript, Java, C++
Frameworks: Flask, Angular
Developer Tools: Git, Postman, Vim, JUnit, Anaconda, VSCode, Docker
Libraries: Piling.js, Numpy, Scipy, PyTorch, Blender, Node.JS