Varun Madan

🌐 varunrmadan.com | ✉ vmadan@stanford.edu | 🔗 linkedin.com/in/varunrmadan | ⬛ github.com/madanva

EDUCATION

Stanford University   Sept. 2022 – Jun. 2025
Bachelor of Science in Computer Science   *GPA: 3.8*

- **Relevant Courses:** Machine Learning (Python), Data Structures and Algorithms (C++), Computer Organization and Systems (C), Introduction to Probability for Computer Scientists (Python), Design and Analysis of Algorithms, Mathematical Foundations of Computing, Linear Algebra and Multivariable Calculus

EXPERIENCE

Data Science Intern   Jun. 2023 – Sept. 2023
Altai Capital   *Newport Beach, CA*

- Conducted research and [data analysis in R](#) on hundreds of recycling centers and their capacity/materials processed in four prominent Western countries (Germany, Canada, United Kingdom, and France) for the firm's CEO.
- Added existing plastic sortation data in Germany for each recycling center to my map that was then used to aid the company's investment in Digimarc's proprietary digital watermark-based sortation technology.

Research & Development Engineering Intern   Jun. 2022 – Aug. 2022
SIMETRI   *Orlando, FL*

- Developed and tested numerous augmented reality simulations with Unity in a modular medical environment to mimic healthcare simulations on the battlefield.
- Led a robust cost-benefit analysis of new scanning technologies by negotiating with manufacturers on behalf of the engineering department, which ultimately helped decrease excess company spending by over $10,000.

PROJECTS

Emergence in LLMs | *Python, PyTorch, CUDA, TensorFlow*   Jan. 2024 – Present

- Investigated the relationship between harsh and soft metrics of LLMs in dozens of open-source models found on the Hugging Face leaderboard as a researcher in Professor Sanmi Koyejo's Stanford Trustworthy AI group.
- In the process of developing a formal soft metric relationship that can accurately predict a model's emergence patterns for any given number of parameters, thus saving researchers a large amount of time and resources.

Vintave | *Python, PyTorch, React, SQL*   Jan. 2023 – Sept. 2023

- Built a computer-vision-based authentication and quality assurance software to provide over 150 avid shoppers with high-quality used handbags from 10+ local shops that lack an online presence around the Bay Area.
- Accepted to the Stanford Design School's Launchpad 13 cohort as well as the Stanford Doerr School's Hacking for Climate and Sustainability, two of the most selective accelerator-based classes on campus.

BeemunityAI | *Python, TensorFlow, R, Keras, Scikit-learn*   Aug. 2017 – Sept. 2022

- Developed a probiotic mixture treatment and a novel multiple linear regression model in collaboration with the University of Florida to optimize honeybee gut immunity against numerous external stressors.
- Awards/Honors: European Union Contest for Young Scientists Award Winner, 2-time Regeneron ISEF 1st Place Winner, Minor Planet Naming, National Science Talent Search Scholar, 5-time Florida Regional Grand Champion.

LEADERSHIP AND VOLUNTEERING

- **Founder/Lead of Google Developer Student Clubs @ Stanford**: Developer group of 50 students on campus.
- **Teaching Fellow for CS 105, Introduction to Computers**: Stanford course for Title I High Schools nationally.
- **Founder/CEO of Everyone Deserves STEM**: Nonprofit providing scientific education to 1,500 children globally.

TECHNICAL SKILLS

Languages: Python, JavaScript, C, C++, SQL, R, Java, HTML, CSS
Frameworks: React.js, React Native, Node.js, Express.js, Flask, PyTorch, CUDA, TensorFlow
Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, IntelliJ, Eclipse, Qt Creator
Libraries: NumPy, Matplotlib, Scikit-learn, pandas