

Maruthi Vemula

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Education

4.87/5.0 **North Carolina School of Science and Mathematics, Durham, NC, USA** 2022-2024
4.0/4.0 **Cox Mill Highschool, Concord, NC, USA** 2020-2022

Achievements: NMSQT Semi-Finalist | President's Education Award | LaunchHacks Hackathon 3rd/800 Internationally

3 Inter/National Conferences: IEEE ICDSCA 2023 | 2024 AJAS Conference | ACM-BCB 2023

Courses: Research in Entrepreneurship | AP Calculus BC | Machine Learning | AP Physics 1 | Combinatorics and Game Theory

Experience

ImpactIQ, Founder & CEO | Durham, NC October 2022 - Present

- Developed and deployed a AI Consulting SaaS for local businesses to utilize in order to market themselves and grow customer base.
- Tailored the software to optimize 18 international e-stores, leveraging advanced AI analytics for market growth and profitability.

SplitShare, Co-Founder & CEO | Durham, NC May 2023 - Present

- Spearheaded the technical development of a subscription-sharing and managing platform by delegating a dynamic team of six
- Created marketing campaigns and optimizing SEO marketing on social media to grow the platform to over 1000 users

Time2Care, Robotic Software Engineer Intern | Remote June 2020 - Present

- Serving as Co-President of the Study2Serve program at Time2Care, an international non-profit organization, helping raise over \$5,000 in donations for sick children in India for their education
- Developed and implemented effective marketing strategies and tools that contributed to the growth of the organization from serving nearly 150 students to over 1000, significantly increasing its impact on the community

Lenovo, Software Innovation Intern | Remote June 2022 - August 2022

- Spearheaded the development of innovative machine learning programs aimed at assisting people with disabilities.
- Engineered robotic mechanics to assist ALS patients, focusing on user experience optimization in a team of 8 other developers.
- Facilitated product's business development through crafting a successful go-to-market strategy for launch and commercial viability.

Bumper Investing : Mechanical Engineer Intern | Remote May 2021 - Aug 2021

- Ambassador for fin-tech start-up, devising and executing marketing strategies to boost brand visibility and drive lead generation.
- Contributed to company's business plan with strategic recommendations to increase ROI and decrease churn rate

Skills

Programming Python, C/C++, C#, Javascript, Matlab, Git, Scripting (Bash), LaTeX, HTML, CSS, Mathematica, R
Business Microsoft Office (Word, Excel, Outlook, Powerpoint), MailChimp, FileMaker Pro, Figma, Inventory Management
Software Linux, Tensorflow, Pytorch, Docker, OpenCV, Flask, MongoDB, Django, Keras, Scikit-Learn
Languages Conversational English, Telugu, Hindi; Limited proficiency in Spanish

Projects

Mitigating Information Asymmetry in Governmental Policies: An AI-Driven Approach July 2023 - Present

The Samuel DuBois Cook Center on Social Equity, Duke University

- Conducted a study on GPT-4's efficacy in simplifying governmental policy summaries, enhancing public comprehension.
- Utilized Gunning Fog Index and Flesch-Kincaid Score, achieving a 121.5% increase in clarity over original texts.
- Implemented a modified Genetic Algorithm to refine AI summaries, resulting in a 29.89% improvement in ROUGE-L scores.

Enhancing Cryptocurrency Price Prediction Leveraging Technical Indicators July 2023 - September 2023

Individual Project Accepted for Publication in IEEE ICDSCA 2023

- Developed LSTM and Transformer models incorporating volatility indicators, markedly improving cryptocurrency price prediction accuracy.
- Compared model performances on Bitcoin, Ethereum, and Litecoin, establishing Transformers' superiority in trend forecasting.

Integrating Local and Stochastic Volatility Models within Black-Scholes January 2023 - February 2023

Data Science for Finance (Course Project)

- Investigated stock volatility prediction using Neural Nets and SVMs across seven market sectors, achieving 31% accuracy.
- Compared multiple ML models for predicting stock volatility based on strike price and expiration time variables.

Doxorubicin Efficacy Prediction for Glioblastomas using ML and Differential Equations October 2022 - March 2023

Individual Project Published in Intelligence-Based Medicine Scientific Journal.

- Developed a deep learning and differential equation framework to predict Doxorubicin treatment efficacy for Glioblastomas with a MAE of 4.98%.
- Created a web application for MRI analysis, enabling precise prediction of tumor volume changes with chemotherapy treatment.

Neuro-Responsive Electrically Stimulated Wheelchair for Huntington's Disease Patients October 2021 - February 2022

Biotech in Action with MIT-Lemelson and Biogen

- Innovated a neuro-responsive electrically stimulated wheelchair to improve mobility in Huntington's Disease patients.
- Integrated advanced technology to autonomously adapt wheelchair movements, enhancing patient independence and safety.

Harvesting Piezoelectric Energy Conversion for Electric Vehicles May 2021 - September 2021

Catalyzing eXploration in Chemistry Program with UNC-Chapel Hill

- Explored the feasibility of piezoelectric energy conversion from roadway vibrations for powering electric vehicles.
- Conducted comprehensive evaluations to assess the potential of harnessing vibrational energy for sustainable vehicle charging.