Saketh Kotamraju

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Education

University of Texas at Austin **Expected Graduation: May 2025**
B.S Turing Scholar's program/Computer Science honors program *Austin, TX*
- Coursework: Discrete Math Honors, Data Structures Honors, Multivariable Calculus, Longhorn Startup Seminar
- Activities: Texas Blockchain, Association for Computing Machinery (ACM), UT Programming Contests (UTPC)

Heritage High School **Aug. 2018 – May 2022**
Computer Science, 4.0/4.0, rank 10/486 (top 2%) *Frisco, TX*

Technical Skills

Languages: Python, Java, C++, Latex, SQL, HTML/CSS, Javascript
Frameworks/Tools: Pytorch, Mongo DB, Express.js, React.js, Node.js, Heroku, Unity, PostgreSQL, Flask, HuggingFace Transformer Library, Scikit-learn, Matplotlib, NumPy, Pandas, Amazon Web Services (AWS), Chameleon Cloud

Experience

Crypt Cloud Storage **June 2022 – Present**
Software Engineer *Austin, TX*
- Founding Software Engineer at a seed stage, Capital Factory backed, web3 startup.
- Spearheaded the development of several of Crypt's backend features to securely encrypt, store, and retrieve data on the IPFS network. Built entire payments backend using Stripe API and developed their backend PostgreSQL database integration. Designed several vital front-end components for their web3 product including a real-time, dynamic file-editing app used by all of their users.

University of North Texas **October 2020 – August 2022**
Research Assistant *Denton, TX*
- Conducted Natural Language Processing (NLP) research at Human Interface Language Technologies Lab working under **Dr.Eduardo Blanco**. Built, trained, and tested AI and NLP models on large-scale datasets using frameworks like Pytorch and HuggingFace.
- Published a research paper titled, *Written Justifications are Key to Aggregate Crowdsourced Forecasts*, at **Findings of the Empirical Methods for Natural Language Processing (EMNLP) 2021 research conference as First Author.** (See more below in projects)

Towards Data Science, Medium.com **October 2020 – Present**
Blogger, Article Writer
- Wrote educational articles for explaining challenging Artificial Intelligence topics for the Towards Data Science publishing platform on Medium.com. Received over 100000 views across all articles. Gained over 150 followers.
- Profile Page: https://medium.com/@saketh.kotamraju
- Received editor's choice award for article titled, *An Intuitive Explanation of Self Attention.*

Knights Robotics **October 2018 – May 2022**
Lead Programmer *Frisco, TX*
- Programmed the robot to facilitate driver control and autonomous motion using C++. Led a team of 3 programmers and designed our team's custom odometry and motion algorithms in C++ for our robot's autonomous path.
- Accolades: 4-time State Championship Qualifier, 3-time Vex Robotics World Championship Qualifier, State runner up (2020), 5th place in Texas, 27th place in the World for the 2021 Vex Robotics Competition.

Heritage High School Competitive Programming Club **October 2018 – May 2022**
Vice President *Frisco, TX*
- Solved challenging algorithmic, competitive programming problems. Competed in Facebook Hacker Cup (round 2 qualifier, 2021), Google Codejam (Round 1 Qualifier, 2021), Lockheed Martin Codequest (Advanced Division 2nd place: 2021, Advanced Division 9th place: 2022), Hewlett Packard Codewars (10th place, 2021), USA Computing Olympiad (Silver division, 2020), University Interscholastic League Computer Science (2nd place in regional competition, 2021).

Projects

Geopolitical Forecasting Tool | *Python, HTML/CSS, Pytorch, HuggingFace, Matplotlib, NLTK, Chameleon Cloud* **August 2021**
- Developed a novel NLP model architecture to forecast future events. Model aggregated community sourced forecasts using the written justifications of each forecast. Developed a Python API to scrape the data from the Good Judgement Open website (IARPA backed website) by parsing the HTML code.
- Constructed model architecture consisting of BERT transformers and neural networks. Trained model on Nvidia V100 GPUS on Linux virtual machines on Chameleon Cloud. Achieved a statistically significant accuracy of 81%, significantly outperforming baselines and achieving a new state-of-the-art on this task. Conducted a statistical analysis of the dataset and model's error analysis using Matplotlib and NLTK. Published research paper detailing experiments at EMNLP 2021 conference.

Flask Web App | *Python, Flask, Pytorch, HuggingFace, HTML/CSS* **July 2022**
- Built a Flask Web App to host several pretrained AI models from the HuggingFace transformer library. Includes a sentiment analysis model, text summarizer, question answerer, and a language translator. Built an intuitive UI in HTML/CSS for users to receive predictions from the models.

Memories App | *Mongo DB, Express.js, React.js, Node.js* **August 2022**
- Built a full stack web app for users to add, delete, and memories and events (consisting of an image, text description, and other common information). Used the MERN stack to create, read, update, and delete data from the Mongo DB database.