

Nitish Gorentala

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EDUCATION

Virginia Polytechnic Institute and State University (Virginia Tech)

B.S. Computer Science 2020-2023

Cumulative GPA: 3.90 / 4.0, Major GPA: 3.75 / 4.0

Courses: Computer Systems, Data Structures & Algo, Formal Languages & Automata Theory, Applied Combinatorics

Thomas Jefferson High School for Science and Technology

General Studies 2016-2020

Cumulative GPA: 4.063 / 4.0

Courses: Artificial Intelligence, Mobile/Web App Development, Multivariable Calculus, Linear Algebra

WORK EXPERIENCE

Meta (Facebook): Messenger/Instagram

Menlo Park, CA

Software Engineering Intern for Messenger Core Privacy Infra Team

May 2022 – August 2022

- Used Java and Kotlin Abstract Syntax Tree parsers to improve the Facebook Android codebase linter to reduce noise regarding privacy lint rules and improve development speed in the codebase.
- Utilized Hack/PHP, Python, Kotlin, and Java to develop a code generation script (Codemod) that continuously rolls out a privacy framework to automatically detect privacy leaks in the Facebook Android messaging codebase.
- Codemod enforces privacy standards on 5000+ Java and Kotlin classes in production and development daily.
- Logged metrics to gain insights on the privacy level across the Facebook Android messaging codebase and track privacy violations, such as privacy leaks of sensitive user data, for all Messenger teams to mitigate privacy risks.

Commonwealth Cyber Initiative + Virginia Tech

Arlington, VA

Undergraduate Researcher in AI | Hume Center

January 2021 – December 2021

- Employed Pandas and the Yahoo Finance yfinance Python package to extract financial data for various economic indices and commodities, updated daily for the latest data with asynchronous Python.
- Leveraged statistical analysis to identify the optimal financial index for each commodity and predict how much of a commodity to produce by generating causal scores through Microsoft's DoWhy causal inference package.
- Developed a Deep Q-learning network with the StableBaselines3 Python package, trained to trade a specific stock for maximum profit through a custom stock market environment using OpenAI's Gym Python package, and constructed a visualization tool to show how the network learns.

PROJECTS

CourseOpenings and Bot (<https://github.com/TheNitG/CourseOpeningsBot>)

November 2020 - Present

- Utilized multithreading and Selenium for web browser automation and web scraping to construct a standalone Python application that checks if courses are open for the next academic semester and tells you when they open if they are not already for roughly 40,000 students enrolled at Virginia Tech.
- Also made a Discord bot version which uses the same features with regular expressions to identify commands. It can create stock candlestick charts, play tic-tac-toe through a minmax algorithm, and solve sudoku puzzles.

VT Hacks 8 2021 (Hackathon) (<https://github.com/TheNitG/VT Hacks 2021>) ("Best use of Google Cloud")

Back-end Programmer; Technologies used: Python, HTML, CSS, JavaScript.

February 2021

- Transcribes uploaded video lectures and site displays key phrases and relevant useful online resources to help users with learning course content, aimed at students that do not have the time to fully watch hour-long lectures.
- Utilized a custom Bootstrap template for the site, Flask with Jinja templating for the server, Google Cloud Speech to Text API for transcription, and FFMPEG for media conversion to necessary formats.

SKILLS & INTERESTS

Proficient: Python, Java, Kotlin, C, React, JavaScript, Scheme, Lua, MERN, Bash, Mercurial, Git/VCS, MongoDB, C++

Competent: Golang/Go, Ruby, HTML, CSS, SQL, Hack/PHP, Flask, Linux CLI (WSL2), Google Cloud, Google Colab

Interests: Artificial Intelligence, Machine Learning, Automation

PUBLICATIONS

Gurrapu, S., Batarseh, F., Wang, P., Sikder, N., **Gorentala, N.**, Munisamy, G., "DeepAg: Deep Learning Approach for Measuring the Effects of Outlier Events on Agricultural Production and Policy", *IEEE SSCI 2021* (2021). Print.

Gurrapu, S., Batarseh, F., Wang, P., Sikder, N., **Gorentala, N.**, Munisamy, G., "DeepAg: Deep Learning Approach for Measuring the Effects of Outlier Events on Agricultural Production and Policy", *AAAI Fall Symposium* (2021). Print.

Kabir Sikder, N., Wang, P., **Gorentala, N.**, Batarseh, F., "Model-Agnostic AI Assurance Algorithms for Domain Independent Deployments", submitted to the *2022 IEEE's Special Issue on Trustworthy AI* (2022). Print.