Varun Gangadharan

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EDUCATION

University of Illinois at Urbana-Champaign, *Grainger College of Engineering* *Expected Graduation: May 2024*
Bachelor of Science in Computer Science GPA: 3.76/4.0

WORK EXPERIENCE

Leidos **June 2022 – August 2022**
Summer Software Engineering Intern *Gaithersburg, MD*
- Built **data collection algorithms** and functionality to modernize the FAA's ERAM air traffic safety system
- **Optimized thousands of lines of code** from a legacy script in Kornshell and **converted to a more efficient Python version**
- Collaborated with team members with **troubleshooting/debugging** before deployment to production
- **Cut down runtime of ERAM script** by restructuring many functionalities to work with newer Python libraries

Shop2App **May 2021 – August 2021**
Summer Software Engineering Intern *Germantown, MD*
- Worked with **front end design for Shopify apps** to optimize user experience for companies wanting to build apps/websites
- Handled **user interface design** for websites and apps **through the use of React**
- **Simplified the web development process** with JQuery

National Cancer Institute **June 2019 – August 2019**
Research Intern *Rockville, MD*
- Conducted **statistical modeling of genetic data** to aid treatment of cancer patients
- Created **complex machine learning algorithms** sifting through large amounts of data with R
- Utilized **data visualization to develop visual aids** for data analytics

PROJECTS

Twitter Data Mining
- Developed a Python script using Tweepy API to extract data from Twitter and Textblob library for sentiment analysis
- Script takes in a username input and compiles tweets from or about said subject to an external CSV file and compiles recent 100 tweets with all associated information including the feeling associated with said tweet
- Gained familiarity with data visualization through the process of cleaning up individual pieces of raw data from the scraping process and making a presentable table in CSV file

Youtube Automation Bot
- Designed bot that automatically opens youtube to brand new video whenever selected Youtuber uploads
- Implemented Selenium WebDriver and automated/executed scripts on different browser and platform using Python
- Used Youtube Data API (v3) and learned how to use developer account for data scraping

Machine Learning Model
- Implemented Naive Bayes classification algorithm to classify numbers drawn by user in Cinder
- Implemented ML algorithm to train computer with many thousands of lines of data to recognize drawn numbers
- Understood more specifically about clustering/classification and why Naive Bayes is not optimal

Ideal Gas Simulation
- Built application that emulates a container with three different types of particles and allows the user to interact with various properties that affect the particle physics (speed, temperature, heat energy, gravity)
- The application is constantly collecting data and I learned more about data visualization by displaying real time histograms depicting the velocities of each particle type (and how they change with each factor) as well as phase change graphs
- Developed over 100 tests checking for memory leaks and overall functionality of the application

LANGUAGES/SKILLS

Java, C++, Python, C, HTML/CSS, React, Node.js, MATLAB, R, JSON, JQuery, Selenium, Git, Docker, SQL, Neo4j, MongoDB, Vim

RELEVANT COURSES

Discrete Structures | Software Design | Probability & Stats in CS | Numerical Methods | Computer Architecture | System Programming | Database Systems | Data Structures | Systems Programming | Applied Machine Learning | Algorithms & Computation Models | User Interface Design