LALITHA VADREVU

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EDUCATION

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL Aug 2020 - May 2024

B.S. in Computer Science | B.S. in Statistics & Analytics | GPA: 3.8/4.0

Relevant Coursework: Data Structures, Discrete Structures, Analysis & Algorithms, Models of Languages and Computation, Files and Databases, Intro to Probability, Intro to Data Science, Methods of Data Analysis, Linear Algebra, NLP, Intro to Optimization, Intro to Software Engineering

SKILLS

Programming Languages: Python, Golang (Go), Java, C, TypeScript, JavaScript, R, HTML/CSS, SQL
Frameworks: Angular, React, Django, Next.js | **Software Tools:** Git, Docker, Figma, Node.js
Programming Concepts: Object Oriented Programming (OOP), Software Design Patterns, Unit Testing, Model-View-Controller (MVC)
Certifications: AWS Certified Cloud Practitioner Certification, AWS Developer - Associate Certification
Leadership/Communication: Undergraduate Teaching & Research Assistant for UNC Computer Science., Education Team TA for UNC CS for Social Good
Fine Arts: Trained in Indian Classical Music (Vocal) & performed at many events, including charity fundraisers.

PROFESSIONAL EXPERIENCE

Full Stack Developer Intern | Financial Risk Group (FRG) | Cary, NC May 2023 – Aug 2023

- Developed and tested a Go module for correlated multivariate simulation using Cholesky Factorization, enhancing risk analysis capabilities, and **reducing overall computation time by 20%**.
- Implemented **11 new SQL functions** in Go, involving the modification of over 500 lines of the SQL parser and code generation routines. Subsequently, created **nearly 25 unit tests** for better code coverage and updated documentation.
- Enhanced features of an interactive graphical representation of a risk solution process and associate data hierarchy.
- Employed a range of software tools, such as Git, Phabricator (**conducted over 15 code reviews**), Docker, Markdown, and shell scripts (Linux), for efficient development and project management.

Full Stack Developer Intern | Financial Risk Group (FRG) | Cary, NC May 2022 – Aug 2022

- Automated creation of interactive visual representations of risk solution processes by developing a Go subsystem with **Graph Theory** and **Dot** language. Collaborated with UI/UX teams to seamlessly integrate code into front-end Django framework, improving overall user experience.
- Analyzed critical **Python processes**, modified code to enhance **parallel performance** metrics, resulting in a substantial **20% reduction in the runtime** of specific resource-intensive statistical calculations.
- Enhanced Visualization of Risk (VOR) Stream **product usability** in Python, leading to improved ease of use and client satisfaction.
- Performed code reviews and **triaged 15 critical bugs** with engineers in an **Agile environment**. Updated **product documentation** for future reference and to facilitate knowledge sharing within the team.

TECHNICAL PROJECTS

UNC CSXL ROSTER MANAGEMENT SYSTEM | Computer Science Experience Labs Intern Jan - Mar 2024

- Contributed to the development of the UNC CSXL (Computer Science Experience Lab) web app, serving a **weekly audience of over 300 visitors.**
- Developed pivotal feature that allows students and faculty to have a roster management system to incorporate membership and leadership representation for student organizations, enabling exclusive functionalities like members-only events and administrative privileges to manage member information.
- Utilized **Angular** and **TypeScript** to enhance the frontend, seamlessly integrating it with a Python-powered backend built with FastAPI and PostgreSQL.
- Employed Python's **RESTful server-side APIs** for membership management CRUD operations, integrated with **PostgreSQL**, and conducted unit tests to ensure functionality. Implemented SQLAlchemy **ORM** for optimized data deployment on CloudApps.
- https://csxl-team-a3-comp590-24s.apps.unc.edu

TRACK MY LEADER | UNC HACKNC 2022 Winner for Most Creative Use of Twilio Oct - Nov 2022

- Developed a **data-driven** web app using HTML/CSS, Python, and **Flask**, enabling **web scraping** and analysis of governmental data for tracking past presidents' platforms and achievements alongside North Carolina officials.
- Integrated data visualization tools and the **Twilio API** to provide personalized voter registration information, enhancing civic engagement and accessibility to political data.
- https://devpost.com/software/track-my-leader

COVID DEATHS WITH PRE-EXISTING HEALTH CONDITIONS Jan-Feb 2022

- Conducted a statistical analysis report on COVID-19 fatalities among individuals with pre-existing health conditions. Utilized **Data Analytics** and **Machine Learning** (regression, clustering, classification, algorithmic thinking, optimization) concepts & tools in **R** to comprehensively analyze the data.

NONOGRAMS Oct – Nov 2021

- Developed a functional GUI for the single-player logic puzzle "Nonograms" using Java. Applied the **model-view-controller** (MVC) design pattern and utilized the **JavaFX UI** library along with CSS to design and implement the game and wrote **JUnit tests** to ensure code reliability and functionality.