SHREERAM GUDEMARANAHALLI SUBRAMANYA

(+1) 716 306 9169 | sgudemar@buffalo.edu | github.com/shreeramgs | linkedin.com/in/shreeramgs/

EDUCATION

State University of New York at Buffalo, United States   August 2021 - February 2023
Master of Professional Studies, Data Science and Applications
The National Institute of Engineering, Mysore   August 2016 - May 2020
Bachelor of Engineering, Computer Science Engineering

EXPERIENCE

WhiteHack LABS   *Python Full Stack Developer*   **November 2023 – Present**
• Managed detecta's client-side product, a scalable Django CRM Web Application for reporting penetration test findings

• Planned and implemented the product upgrade by integrating a PostgreSQL database and a React dashboard with AJAX, enhancing the application responsiveness and user engagement by 75%

• Handled and resolved production JIRA tickets with an average turnaround time of 8 to 10 hours

• Leveraged a novel Query API to rewrite code that used conventional SQL queries to produce an average of 2x faster runtimes

• Led the initiative to containerize and deploy our application on GCP, utilizing Docker for all environments

• Implemented *dnspython* for DNS validation, *RabbitMQ*, and *Celery* for asynchronous tasks, *OAuth2* for secure authentication

• Developed an automated script to run data changes in production systems, which earlier took more than half a day for approvals

Center for Unified Biometrics and Sensors Lab (UB)   *Research Assistant*   **December 2022 – November 2023**

• **NSF funded project**| *Qualcomm* – Spatio-temporal multimodal network to learn the difference between live and fake fingerprints

• Established a project Roadmap, and conducted weekly scrums to identify dependencies and uncover novel solutions

• Created a novel dataset GestSpoof of 1 million fingerprint images and conducted a quantitative analysis of live/fake fingerprints

• Evaluated existing static-image detection approaches with residual network architectures like ResNet_50, ViT Base, and SwinV2

• Submitted paper *to IEEE Face and Gesture Conference 2023*

Cognitron Technologies   *Data Consultant*   **March 2020 – July 2021**
• Worked as a Data Consultant focused on implementing data governance and providing analytics and software support to deliver an Education CRM tool for improving student enrollment in public schools, saving 100 hours/week of administration staff

• Developed automation scripts using Java to aid in handling, editing, and exporting huge volumes of customer data, extending the export capability of the product by more than 95%

• Practiced and enforced best coding practices for both frontend and backend codebases

• **Data Cleaning/ETL and BI Dashboards**:
  o Transformed/cleansed unstructured records data using Java and stored it in MySql Database
  o Established A/B testing for student engagement tools, including hypothesis development, test group segmentation, and statistical significance testing, resulting in a 10% increase in overall student engagement
  o Utilized APIs for data retrieval and developed interactive dashboards through visualization tools like Tableau and R Shiny to provide visibility into user behavior metrics such as Conversion Rates, Click-Through Rates (CTR), and Feedback Scores

• Led a team of 5, working on enhancements and bug fixes during product upgrade and completed within 6 months

• Participated in organization-wide contributions to develop a Spring and Angular application that tracked project metrics.

• Developed Cucumber scripts to showcase test-driven development for potential clients, participated in improving code coverage in existing codebases, and improved the coverage to greater than 85%

ACADEMIC PROJECTS

Depression Detection from social media platforms: Python 3, Sci-kit learn, Plotly, Pandas, NumPy
- Led a team of 5, scrapped data from various social media platforms such as Reddit, and Twitter, using **snscrape** and **Reddit API**
- Transformed unstructured data to a structured format by extracting relevant information such as text, mentions, and timestamps
- Pre-processed 15,00 suicide posts dataset by removing hashtags, and links and evaluated Lemmatization and Stemming techniques
- Performed **content analysis** (topic modeling, sentiment analysis, topic distribution) and visualized the data using Plotly
- Devised a binary classifier model using feature selection techniques like XGBoost, SVM, and Random Forest to differentiate between suicidal and non-suicidal social media posts

Chandy Lamport Algorithm for Global Snapshots
- Analyzed the original published paper on Global Snapshots using Chandy Lamport Algorithm
- Implemented the algorithm using Golang, including RPCs, tests, and custom data structures, running on top of a Token Passing System.
- Successfully tested the algorithm implementation using 3, 8, and 10 system simulations

RAFT Consensus Algorithm
- Raft is a consensus algorithm for managing a replicated log
- Analyzed the original published paper on the Raft consensus Algorithm
- Implemented the leader election phase of the algorithm using Golang
- Successfully tested the algorithm implementation using multiple system simulations and failure points

Jacobi Iterative Solver
- Implemented the sequential and parallel versions of the Jacobi method for solving a system of linear equations, in C++
- Designed the parallel algorithm using MPI, a parallel programming library.
- Developed SLURM scripts to schedule the running of the parallel jobs using different numbers of processors, in a HPC cluster.
- Generated test data that satisfies convergence conditions and ran performance tests with various number of processes
- Profiled the parallel and sequential algorithms using IPM profiler to observe the time spent in communication and the actual running of the algorithms
- Studied the runtimes and performance plots of the algorithms with different datasets

US House Rent Predictor: Python 3, Kaggle, MySQL, Streamlit, Seaborn,
- Standardized and Preprocessed 75,000 US property listings, loaded into a SQL database for analysis. Employed regression models (Linear, Decision Tree, Gradient Boosting) to identify optimal models for the data
- Developed a **Streamlit** web application to display predicted house rental prices based on input house attributes

E-wallet Money Transaction System   February 2020 – May 2020
- Built a responsive web application with dashboards from Materialize, ExpressJS, JavaScript, HTML5, and CSS deployed on GCP
- Developed restful APIs using JSON and established a seamless connection with the SQL database. Created respective indexes to optimize query performance and improved the efficiency of transaction history retrieval

Pneumonia Detector by Chest X-Ray: Python 3, Keras, Open CV   September 2019 – February 2020
- Classified pneumonia in chest X-ray images using deep learning (ResNet_50, VGG) and evaluate the performance
- Published paper in the International Journal of Engineering Science and Computing (**IJESC**)

SKILLS

- **Programming |**   Python, R, Bash, Linux Shell C, C++, JAVA, SQL, JavaScript, HTML, Cascading Style Sheets (CSS)
- T**ools and Technology |** Talend, SSIS, PostgreSQL, GCP, Talend, Django, Docker, GIT, Azure, Tableau, JIRA, Confluence, PyTorch, MongoDB, Behavior and Test-Driven Development, Django and Flask, CI/CD, NoSQL, Agile, CSS, threejs, react-three-fiber, MapReduce, Apache Spark, Unity, Kubernetes, Kafka

PUBLICATIONS / CERTIFICATIONS

- "Gesture-Based Spatio-Temporal Representation" published in the 19th IEEE Automatic Face and Gesture Recognition
- "Chest X-Ray Image Classification using ResNet50_v2" published research article in the International Journal of Engineering Sciences and Computing (IJESC vol10 Issue6, June 2020)
- AZ-900: Microsoft Azure Cloud Fundamentals | Microsoft | January 2023
- **Google Analytics Individual Qualification** | skillshop | February 29,2024