Usha Vudatha

Stony Brook, NY (Open to Relocate)

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Education

Master of Science in Computer Science, *SUNY - Stony Brook University; GPA: 3.8/4.0* — *Jan 2022 - May 2023*

Bachelor of Technology in Computer Science, *Vel Tech University; GPA: 4.0/4.0* — *Jul 2017 - Jun 2021*

Technical Skills/Strengths

Skills Java, Python, HTML, CSS, C, C++, Javascript, Go basics, D3.js

Tools & Frameworks Spring boot, Hibernate, AWS, Docker, Tableau, VSCode, Azure, Eclipse, IntelliJ, Git, Spring MVC RESTful APIs, Jira, SQL

Experience

Graduate Teaching Assistant — Stony Brook, NY

Stony Brook University — *Aug 2022 - Dec 2022*

- Conducted collaborative and interactive sessions for 150 students, fostering their proficiency in Data Structures and Algorithms
- Mentored various teams, facilitating the development of their problem-solving skills and achieving 95% satisfaction rate
- Maintained a dedicated website with research materials and resources, catered to both technical and non-technical audiences

Software Engineer — Hyderabad, India

Sperry Technologies — *Jan 2021 - Jan 2022*

- Contributed to the back-end development of the client's website by developing 15 RESTful microservices using Spring Boot, Hibernate to map objects to tables in a relational database(MySQL)
- Optimized the existing code base and restructured it to reduce the average response time by 75% and Improved database performance, and loading speed by 25% through query optimization
- Demonstrated strong version control practices using Git, resulting in 50% reduction in code conflicts, ensuring code integrity
- Incorporated Daily Scrum meeting as a part of Agile Development methodology, optimized and resolved 50+ backend bugs

Software Engineer Intern — Hyderabad, India

Sperry Technologies — *Aug 2020 - Jan 2021*

- Created a movie rating website with seamless intercommunication between 3 microservices (2 producers, 1 consumer)
- Established smooth data exchange between the 3 microservices via RESTful APIs, enabling users to rate and review movies
- Implemented version control using Git, resulting in a 50% reduction in code conflicts and ensuring code integrity within the development team.

Publications/Accomplishments

- Published *Aspect Based Sentiment Analysis Using Rule Based Approach* in 2021 First International Conference on Advances in Computing and Future Communication Technologies. The findings were disruptive technology for the social media monitoring
- Published *Linear Attribute Distribution and Performance Assessment for Absenteeism at Work using Machine Learning* in 2019 International Journal of Recent Technology and Engineering. The findings led to the optimization of workforce management
- Recognized as a top performer in the HackWithINFY'20 Coding Competition among 167,000 participants

Projects

Absenteeism at Work using Machine Learning | *Machine Learning*

- Performed feature scaling, fitted data to 8 different regression models to predict number of absent hours. Achieved the effective prediction using Passive aggressive regressor with minimum MSE 0.04, MAE 0.16, EVS 0.03
- Deployed the regression models in a production environment using cloud technology(AWS) to reduce the cost by 40%

Kaggle DataScience and Machine Learning Survey | *D3. js, Python, Flask, HTML, CSS*

- Utilized RESTful API for streamlined data retrieval & responsive dashboard, achieving a 90% reduction in manual tasks
- Designed an interactive dashboard with advanced visualization techniques on kaggle survey data using D3.js and Flask

DNS resolver with DNSSEC | *Python*

- Expertly navigated complex computer network to create DNS Resolver using dnspython resulted in 30% faster response. User device repetitively queries returned IP address starting at the root to the corresponding name server using UDP requests
- Demonstrated innovative use cases by implementing added-security to DNS(DNSSEC) with public-private key encryption techniques using ZSK, KSK, RRSET, resulting in a 99.9% successful validation rate of signed DNS queries

Renewable Energy Prediction using Deep Learning | *Python, Matplotlib*

- Analyzed complex data, effectively observed energy usage and production from 4 sources, retrieved key consumption patterns
- Leveraged a cutting-edge Time series forecasting model to make highly accurate predictions on renewable energy consumption using Multi-step multi variate LSTM algorithm for the USA, Australia, UK and acheived a remarkable accuracy rate of 88%

Asynchronous Queuing System | *C, Linux*

- Designed and implemented a Loadable Kernel Module(LKM) which performed various operations like deletion, encryption, decryption, concatenation, compression and decompression on multiple files in the form of a system call