Sandeep Reddy Somu

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EDUCATION

Master of Science - Computer Science & Engineering   *Graduating **Dec 2022***

Arizona State University, Tempe, AZ   GPA: 4.0 /4.0

Coursework: Foundations of Algorithms, Distributed Database Systems, Data Visualization, Statistical Machine Learning, Info Assurance and Security, Advances in Robot Learning, Data Structures and Algorithms, Principles of Programming Languages.

Bachelor of Technology - Engineering   ***July 2015 – May 2019***

National Institute of Technology Durgapur, West Bengal, India

Coursework: Operating Systems, Database Management Systems.

TECHNICAL SKILLS

Programming Languages	**:** Python, Java, C++, MATLAB
Web Technologies	**:** HTML5, CSS3, JavaScript, D3 JS, Flask
Databases	**:** MySQL, SQL Server, Mongo DB, Apache HADOOP, PostgreSQL
Cloud & Technologies	**:** AWS, EC2, S3, SQS, Bitbucket, JIRA, Git, Jenkins, Visual Studio

PROFESSIONAL EXPERIENCE

Software Engineer, Wipro, *Hyderabad, India*   ***July 2019 – Aug 2021***

- Worked on the design and implementation of web-based applications needed for one of the major American banks.
- Automated their end-to-end processes which include generating their weekly, monthly, and quarterly reports using java-based cloud platform Appian.
- Formulated Oracle Database for the backend, Agile and Scrum methodologies for timely production releases, and comprehensively utilized JIRA tool for the smooth feedback of issues and in time resolutions.
- Mastered the skill of working in teams and was one of the two candidates to receive "The Bright beginning" award out of the 200 employees. Delivered 1048 EUCs in a span of over 1 and half year with the help of around 200+ teammates.

OTHER WORK EXPERIENCE

Graduate Service Assistant, *Arizona State University, Tempe, AZ*   ***Fall 2021***

- Assisted students of CSE 310 Data Structures and Algorithms and CSE 100 Principles of Programming with their grading and assignments on part-time basis for the semester Fall 2021.

ACADEMIC PROJECTS

Spatial hotspot Analysis using Apache Spark, *Arizona State University, Tempe, AZ*   ***Spring 2021***

- Addressed range and distance queries on point and rectangle coordinate sets, created a distributed application utilizing Spark APIs and Hadoop File System.
- Using Spark SQL, applied spatial statistics to spatial temporal data to find hotspots; identified the 50 most important yellow taxi pick up locations in PHX.

Auto-Scaling AWS Iaas Framework, *Arizona State University, Tempe, AZ*   ***Spring 2021***

- Built an Elastic Iaas Framework that auto-scales based on the number of requests an AWS Cloud-hosted application receives.
- AWS EC2 cluster was used to deploy a deep learning model for image classification, and the auto-scaling functionality was demonstrated by adjusting the number of image inputs.
- Utilized AWS Cloud Resources like AWS EC2 for deploying image classification model, AWS S3 for storage, and AWS SQS for auto-scaling. Based on the number of inputs in the SQS queue, AWS EC2 instances bootup, completes the classification task, and shut down automatically making the application end-to-end elastic.

Rotating and balancing a pad via Robot Manipulator, *Arizona State University, Tempe, AZ*   ***Spring 2021***

- The whole idea is to make the robot manipulator simultaneously balance and rotate the pad without any link between the manipulator edge and the pad. Made use of the Q-learning Reinforcement algorithm to tackle the task.
- Used PANDA – Robotic manipulator, Gazebo simulator, MoveIt – Motion planning framework and ROS Noetic software framework.

Selection of Bridge type using Machine Learning Algorithms, *NIT Durgapur, India*   ***Fall 2019***

- Inaugurated and implemented One-Vs-All multi-class classification and Neural Networks for determining the optimal bridge type for a specific location in India.
- The factors weighed in for the determination are soil type, river properties, lanes, etc. which were used as attributes for both models. The data for this training is collected from nearby bridges to my university and the other half were taken from Wikipedia and got an accuracy of 88%.

OTHERS

- **Hobbies**: Hiking, Jogging, TV Series, Music and Coding.
- **Certifications**: Neural Networks and Deep Learning, Machine Learning, Intro to programming using HTML and CSS.