Sarthak Rana

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Education

Arizona State University **08/2023 – Present**
Master of Science in Computer Science *Tempe, AZ*

Jaypee Institute of Information Technology **07/2015 – 07/2019**
Bachelor of Technology in Computer Science *Noida, India*

Experience

Futr Energy (formerly VisualAI) **02/2021 – 07/2023**
Software Development Engineer *Noida, India*

- Developed and deployed 60+ functionalities for microservices related to report generation, solar plant layout digitization, analytics, summary generation, performing CRUD operation and image processing using Python, MongoDB, and Amazon's Lambda, Batch, S3, ECS, and SNS services.
- Automated drone thermography, IV testing and EL testing audit reports cutting report generation time by 90%.
- Developed and maintained desktop utility tools to facilitate the delivery team in their day-to-day tasks and reduce project delivery time to 3-5 hours for a single solar plant.
- Optimized DB collections key-value stores and queries used within the code base which resulted in codes running 50-60% faster and reducing load/ wait time by 1-2s per request.
- Created a cross-server data copy service to copy data between client and company FTP servers.
- Processed the FTP server data, analyzed it, and collaborated with the frontend team to integrate the gained analytical insights and results on the SaaS platform interface.
- Migrated compute-intensive services from cloud server to local servers saving the company about $1200 per month on AWS cloud services.

Newgen Softwares **02/2019 – 10/2020**
Software Engineer *Noida, India*

- Digitalized the ORM and BG modules - used proprietary tools to create process workflows, responsive forms, apply validations, and wrote stored procedures. Achieved a 110% increase in the number of BGs and ORMs being issued.
- Automated the FD/limit creation and refunding processes optimizing and bringing down the overhead by 75%.
- Assisted the bank's tech team and branch users pan India by assessing and troubleshooting pre-production and production environment bugs/issues.

Projects

Hand Gesture Recognition System | *Python, Jupyter, Arduino, MPU6050* **12/2017**

- Created a hand gesture recognition system using Python and Arduino.
- Implemented a voting-based classification model that classified and displayed English alphabets users made using hand gestures.
- Trained the model on a hand-synthesized dataset of 26 alphabet letters and 2 special characters - Space and Enter.

Neural Style Transfer App | *Python, Jupyter, Tensorflow* **05/2018**

- Built a deep neural network-based application - Neural Style Transfer - that took user-inputted content image and a style reference image and produced a resultant image having the content from the content image but painted in the style of the style reference image.
- Utilized the concept of Transfer Learning to get results from the middle layers of the VGG-19 pre-trained model.

Publications

- **Presenter and Writer:** "Analysis of Hyperparameter Tuning in Neural Style Transfer", International Conference on Parallel, Distributed and Grid Computing (PDGC), Dec 2018, JUIT, Solan, HP, India.
- **Writer:** "Comparative Analysis of Various Classifiers for Gesture Recognition", International Conference on Intelligent Computing Techniques for Smart Energy Systems (ICTSES), Dec 2018, MU, Jaipur, Rajasthan, India.

Technical Skills

Languages: Python, C++, SQL

Developer Tools: VS Code, Amazon Web Services, Jupyter, Postman, Filezilla

Technologies/Frameworks: Git, Gitlab, MongoDB, Docker, CI/CD, REST APIs, NoSQL, Pandas