Takshshila Rawat

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EDUCATION

Arizona State University (Tempe, AZ) Aug. 2021 – May 2023
Master of Science in Computer Science GPA: 4.0

National Institute of Technology (Hamirpur, India) Aug. 2012 – May 2016
Bachelor of Technology in Computer Science

SKILLS

Languages: Python, Cuda-Programming, C++, Java, JavaScript (AngularJS, React.js), HTML/CSS, SQL, Neo4j, D3.js, C#/.Net
Tools: Git, Jenkins, MySQL, Docker, Flask, Postman, Elasticsearch, MQTT, Boto3, Linux, Jupyter Labs, VSCode, Eclipse
Miscellaneous: Rest APIs, Web-sockets PyTorch, Scikit-Learn, TensorFlow, Keras, NumPy, Pandas, NLTK, Pycuda, MQTT, Networkx

EXPERIENCE

Moii AI Remote
Site Reliability and Networking Engineer: [Java, Python, Linux, Firebase, Computer Vision, ActiveMQ] July 2023 – Present

- Led and managed system reliability and networking for all customer deployments to ensure high throughput of real-time monitoring
- Managed efficiency and deployment of all server-side processes in Java and Python. Developed real-time flask dashboard to measure and display the efficiency of the project
- Designing robust integration testing framework alongside QA, Dev, and Ops teams to deploy seamless customer solutions
- Developing a Java project as replacement of OpenCV using RTSP, RTP, RTCP (TCP/UDP) protocols

WP Carey Tempe, AZ
Machine Learning Research Aide: [Python,C++, Pycuda, Pandas, Numpy, CNN, MQTT, Flask] June 2022 – May 2023

- Designed a robust Python Flask architecture enabling independent task execution at any phase through unique session IDs.
- Delivered a sustainable alternative to traditional Machine Learning strategies to solve function approximation, classification, and clustering tasks using self-organizing maps (Kohonen-nets).
- Created data pipeline to stream data from IOT device (using MQTT protocol), transformed the data columns w.r.t ranked features, and performed online training by reducing the overhead of saving sensitive data
- Implemented cuda-kernels for feature ranking and model training which reduced execution time by 140%.
- Built an explainable AI application that detects real-time objects in drone images and trained CNN and ResNet models

Reliance Jio Mumbai, India
Manager: [ML, Java, Javascript, Python, AngularJS, REST API, Neo4j, Microservices] April 2019 - Aug. 2021

- Led a team of 8 to develop Machine Learning as a Service consisting of an Anomaly Detection and Forecasting Engine, provided first real-time training, predicting user performances, analysis and analysis for telecom data
- Designed microservice architecture with load balancers between each microservice, User Interface, and REST & WebSockets API
- Implemented and maintained CI/CD pipeline using Git, Jenkins, Workflows, Docker, etc

Software Engineer: [Java, Javascript, Elasticsearch, AngularJS, Rest APIs, Apache POI, Jline] June 2016 - March 2019

- Introduced microservice architecture to analyze and monitor real-time call data records, implemented a Data Analysis microservice that handled query requests from the UI, executed queries on Elasticsearch, and analyzed data from 93 million users
- Built an interactive and responsive UI serving multiple microservices with multiple reusable patterns using MVC patterns
- Developed a microservice that effectively monitors and auto-scales resources such as CPU, RAM, Docker containers, and VNF in the Jio cloud, resulting in a reduction of 45% of man-hours through real-time computational resource allocation.
- Implemented a centralized dynamic Command Line Interface for monitoring 30 microservices in the Jio cloud, providing real-time commands, unique sessions, and secure user/role management, which is currently serving 95% of Jio enterprise services

PROJECTS

Dialog system: Hierarchal Help Me Think - [NLP, PyTorch, Python,HuggingFace, Pandas]

- Implemented hierarchical prompting engineering to customize Help Me Thinks prompt outputs of different Large Language Models
- Created custom prompt datasets from GPT-3 and fine-tuned the LLMs (Bloom, Flan-T5, XLNET, GPT2, etc.) to generate customized output to help non-expert users to solve any task

Face Recognition on Raspberry Pi using AWS- [CNN, PyTorch, Python, AWS, Boto3]

- Developed scalable AWS PAAS service for real-time face recognition that took video frames from Raspberry Pi, uploaded them to S3, triggered Lambda function to perform face recognition, and stored the results in DynamoDB
- Trained Resnet model on AWS EC2 instance using real-time images resulting in 98.18% test accuracy

ACCOMPLISHMENTS

- Achieved the highest grade in the Masters's program at ASU, resulting in the prestigious recognition of receiving the Gold medal
- Received the Gargi Award from the Indian State Government for academic achievement and inspiring other female students