ASIF IQBAL RAHAMAN

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As a Computer Science Graduate with extensive industry and academic research experience, I am actively seeking full-time role in technology. My experience in diverse domains position me well to contribute to innovative and challenging projects.

SKILLS

Programming: Python, Rust, Javascript, SQL, Bash, Shell Script, HTML, CSS, C++, Java, GoLang, VueJS, ReactJS
Frameworks: Flask, FastAPI, RestAPI, Pandas, Numpy, AWS-CDK, PyTorch, Win32, PyautoGUI, Matplotlib, OpenCV, Django, Pillow
Tools: Git, Jenkins, Docker, Unix, Linux, Nginx, Supervisor, MySQL, MongoDB, AWS, Kubernetes, Selenium, GCP, Azure, Expo

EDUCATION

VIRGINIA TECH – BLACKSBURG, US **Aug 2022 – May 2024**
Master of Engineering in **Computer Science** CGPA: 3.9/4.0

- **Courses:** AI Tools for Software Delivery, Natural Language Processing, Data Analysis, Applications of Machine Learning, Computer Vision

VIT UNIVERSITY – VELLORE, IN **Aug 2015 – May 2019**
Bachelor of Technology in **Computer Science** CGPA: 8.0/10.0

- **Courses:** Data Structures & Algorithms, Database Management, Software Development, Data Mining, Cyber Security, Network Architecture

EXPERIENCE

DEPARTMENT OF COMPUTATIONAL CELL BIOLOGY, VIRGINIA TECH – BLACKSBURG, US **Oct 2022 – May 2024**
Software Developer

- Designed an automated simulation of cell cycle with boolean model of protein interactions with significantly better efficiency and accuracy.
- Utilized Pandas, Numpy for data manipulation, database APIs for data validation and dataclass to structure inputs in Python for the project.
- Achieved a **5x increase** in simulation speed for model perturbation analysis by implementing parallel processing and algorithm optimization on the **ARC@VT supercomputer** for automated improvement of exponentially growing (approx **1.6M interactions**) cell interaction models.
- Resulted in a research publication (preprint available at biorxiv.org/content/10.1101/2023.10.30.564745v1) accepted by PLOS One journal.

SECLORE TECHNOLOGIES PVT. LTD. – MUMBAI, IN **Dec 2021 – Jul 2022**
Product Engineer

- Significantly **reduced customer onboarding** from **several days** to **few hours**, enhanced operational efficiency by automating DevOps with AWS-CDK and developed a cloud-based deployment solution leveraging AWS CloudFormation, ECS, DynamoDB, and CloudWatch.
- Optimized deployment by designing scalable infrastructure as code with Docker and Jenkins for containerization and pipeline execution.
- Utilized PyTest and other automation tools for automated testing for unit tests, integration tests, and complete end-to-end test.
- Fostered teamwork and agile development, delivering the initial framework in 4 months utilizing CI/CD principles in a team of 3.

ERICSSON INDIA GLOBAL SERVICES PVT. LTD. – BANGALORE, IN **Jan 2019 – Jul 2021**
Software Engineer

- Developed a rule-based recommendation engine using Pandas and Numpy for network performance analysis, achieving a **36% automation gain** for international telecom clients through enhanced data processing and analysis, and optimizing with parallel computing.
- Constructed an automated API system for daily processing of **~30GB data** from datalakes, improving data handling efficiency by cleaning, categorizing, and storing data as parquet files using Pandas and requests library, facilitating faster access for the recommendation engine.
- Engineered an RPA framework to streamline network management operations, securing **35% boost** in **automation efficiency** by utilizing OpenCV, Selenium, win32 for targeted actions, NoSQL and MySQL for data integration, with backend developed using Rest API.
- Integrated the RPA framework with Ericsson's BotStore platform using internal APIs, streamlining the automation process.

PROJECTS

Personal Website with FastAPI, AWS and Nginx **Jan 2024**

- Embraced hands-on learning approach by designing a dynamic website using FastAPI, SQLAlchemy, Jinja2 in Python, PyTest for testing automation, docker-compose for containerization of the application and deployed in AWS EC2 with Nginx proxy server for efficient routing.
- Designed the website with a forward-thinking structure to potentially support multiple user profiles, enhancing scalability and engagement.

EEG Signal to Text Extraction **Nov 2023**

- Replicated the pioneering research of Wang, Ji et al to convert EEG signal to text tokens by fine-tuning BART model with custom data.
- Implemented zero-shot algorithm using PyTorch to classify the generated texts for verifying sentiment analysis of EEG signals.

Multiple Object Tracking using FairMOT and GAN **Dec 2023**

- Constructed a novel architecture for multiple object tracking, integrating FairMOT with Generative Adversarial Networks (GAN).
- Demonstrated that isolating the generator in a separate layer in the architecture diminishes the tracking performance, as the discriminator readily distinguishes between fake and real data based on layer origin, highlighting the importance of architecture design.

Football (Soccer) Commentary Generation with Assistant-based GPT API **May 2024**

- Enhancing AI generated commentary and game summary using GPT-Assistant API with real-game data through prompt engineering.
- Leveraging a text-to-speech and translation API to emulate Peter Drury's voice for multilingual commentary and enhanced accessibility.

CERTIFICATIONS & AWARDS

- **Python for Data Science and Machine Learning Bootcamp** Udemy Certificate - May 2021
- **Improving Deep Network: Hyperparameter Tuning, Regularization & Optimization** Coursera Certificate - Jul 2020
- **Neural Networks and Deep Learning** Coursera Certificate - Jan 2020

Bi-annual Galactic Award from Ericsson (2020) for achieving outstanding business excellence with data automation framework.