ASIF IQBAL RAHAMAN

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

SKILLS

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

EDUCATION

Virginia Polytechnic Institute and State University (Virginia Tech) – Blacksburg, US **Aug 2022 – May 2024**
Master of Engineering in **Computer Science Applications** CGPA: 3.9/4.0

- **Courses:** AI Tools for Software Delivery, Natural Language Processing, Data Analytics, 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 (Tyson Lab), Virginia Tech – Blacksburg, US **Oct 2022 – May 2024**
Student 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, **dataclass** to structure inputs in **Python** for the project.
- Achieved a **5x** increase in simulation speed for model perturbation analysis by implementing **parallel processing, 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 available at journals.plos.org/plosone/article?id=10.1371/journal.pone.0306523 in **PLOS One**.

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.
- Employed test-driven development with complete **integration test** and **unit testing** using **PyTest**, and maintained version-control system.
- Fostered teamwork and **agile** development, delivering the initial framework in 4 months utilizing **CI/CD** principles in a team of 3.

Ericsson Global India Pvt Ltd. – Bangalore, IN **Jan 2019 – Jul 2021**
Software Engineer

- Developed a rule-based recommendation engine using **Pandas** and **Numpy** for network performance and root cause analysis, achieving **36%** automation gain for 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 **Flask (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 for **front-end** by designing a dynamic website using **FastAPI**, **SQLAlchemy**, **Jinja2** in **Python**, **docker-compose** for containerization, **PyTest** for automated test, 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.