

# ASIF IQBAL RAHAMAN

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As a Computer Science Graduate with 3+ years of industry experience and a year in academic research, I am actively seeking full-time role from June 2024. 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, JSON, OpenCV, Django, Pillow  
**Tools:** Git, Jenkins, Docker, Unix, Linux, Nginx, Supervisor, MySQL, MongoDB, AWS, Selenium, Airflow, 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 available at [biorxiv.org/content/10.1101/2023.10.30.564745v1](https://www.biorxiv.org/content/10.1101/2023.10.30.564745v1) under review of 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.  
• 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 Fine-Tuned GPT Model** **Ongoing**  
• Enhancing artificial intelligence generated commentary realism by fine-tuning GPT model 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.