



Istiyak H. Siddiquee

MLE @ UniKlinikum, Magdeburg

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Tech Skills

- Python NodeJS Java Golang
- MachineLearning XGBoost SHAP
- LIME XAI Fairness MLFlow Pandas
- Numpy SKLearn
- MLOPs Grafana Prometheus
- EvidentlyAI
- Airflow Kafka Pulsar dbt Prefect
- Flyte GreatExpectation
- Docker Kubernetes Terraform Ansible
- GCP aws DigitalOcean Ray istio
- Spring Hibernate django flask
- fastAPI NestJS Angular TypeScript
- MongoDB PostgreSQL MySQL TSQL
- Git CI/CD maven gradle Jenkins
- Vagrant Bash UnitTesting SonarQube

Professional Experiences - 8.5+ Years

- Jan '21 – Present **BackEnd and Machine Learning Engineer** Universitätsklinikum Magdeburg
 - **BackEnd:** Re-designed, re-implemented, and productionized an existing MVC-based monolithic server into a microservice-based modular architecture to accumulate in-sole and sensor-based game data with NestJS, MongoDB, Docker, Nginx, MinIo, and RedisDB.
 - **Machine Learning Engineering:** Developed machine learning models for multiple disease predictions based on gaming data. Productionized ML models with automatized feature extraction pipeline in FastAPI, MinIo, and MongoDB. In addition, built a proof-of-concept system with EvidentlyAI, Grafana, and Prometheus for monitoring data-drift and the prediction performance of the ML model. And, optimized the game with the help of data analysis and ML algorithms.
 - **DevOps:** Developed a Docker GitHub Runner-based CD pipeline for faster code deployment. Also, built a dockerized application for observability with Grafana and Prometheus and a log aggregation platform using ELK-stack.
- March '17 – March '18 **BackEnd and DevOps Engineer** Orion Informatics Ltd.
 - **BackEnd:** Developed and maintained web server in TypeScript, Java, MSSQLServer, Docker, and SonarQube.
 - **DevOps:** Developed a CI pipeline with Docker, Groovy, TestNG, SonarQube, and Jenkins pipeline as code.
 - **Kubernetes:** Installed and Administered several on-prem and cloud Kubernetes clusters in IBM, GKE, and DigitalOcean.
- Nov '14 – March '17 **BackEnd Engineer** BizMotion Ltd.
 - **BackEnd:** Designed, developed, and maintained a business automation software from scratch in Java Spring, with Hibernate, PostgreSQL, etc.
- Jan '24 **Telemedical Monitoring of Plantar Temperature in Diabetic Patients at Risk of Foot Ulcers: The Randomized Smart Prevent Diabetic Feet Trial** | *Deutsches Ärzteblatt International '24*
- Sep '23 **MICDIR: Multi-scale Inverse-consistent Deformable Image Registration using UNetMSS with Self-Constructing Graph Latent** | *Elsevier*
- Aug '22 **Telemedical Monitoring of Plantar Foot Temperature in Patients With Diabetes and High Risk for Limb Disorders: Smart Prevent Diabetic Feet Study (SPDF)** |
- Feb '22 **Abstract - Multi-scale UNet with Self-Constructing Graph Latent for Deformable Image Registration** | *ISMRM 2022*
- May '21 **Abstract - A Comparative Study of Deep Learning Based Deformable Image Registration Techniques** | *ISMRM 2021*
- June '21 **Book Contribution - Advances in Streamflow Forecasting — from Traditional to Modern Approaches** | *Elsevier Limited, Oxford, UK.*

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Volunteering Experience

- Volunteer Data Scientist
Data Kind, since December 2022 | 🌐
- Volunteer Data Scientist,
DSSG-Berlin, since June 2022 | 🌐
- Volunteer Data Scientist, Statistics Without
Borders, since Feb 2022 | 🌐
- Academic Mentor, Faculty of Informatics,
Otto-von-Guericke University
June '22 – Dec '23 | 🌐
- President, United Cultural Alliance, SUST.
Nov '13 – Feb '14
- General Secretary, SUST Science Arena
Dec '12 – Feb '14
- Sylhet Divisional Coordinator
Science Popularizing Society, Bangladesh
Jan '13 – Dec '14

Professional Certifications

- AWS Solutions Architect Associate | 🌐
- Azure Fundamentals - AZ-900 | 🌐
- Coursera Architecting with GCP | 🌐

Recent Projects

- March '24 **Distributed Computing with Flyte and Kubernetes** | 🌐 Academic Seminar
Ansible, YAML, Kubernetes, Flyte, Python
Setup a Kubernetes cluster capable of distributing ordinary Python programs for distributed, parallel computation.
- June '21 – Aug '22 **Propagation Style Analysis for Fake and Real News** Academic Research
Python, NetworkX, Ray, Docker, Kubernetes, XAI
Scientific individual project on early detection of fake news based on propagation style in Twitter.
- July '22 – Dec '22 **Web Scraping and Topic Modeling for Deutsche Rotes Kreuz (DRK)** DSSG-Berlin
Python, NLP, Web Scraping, Streamlit
Web scraping and complete NLP analysis of partner websites of DRK.
- Feb '22 – May '22 **Topic Modeling of a Multilingual Survey Corpus of Women's March Global** SWB
Python, Transformer, LDA, FastText
A comparative topic modeling project for Statistics without Borders (SWB), using Transformer-based (Top2Vec, BERTopic) and traditional (LDA) algorithms.
- April '21 – September '21 **Evolution of Weekly Avg. Sentiment due to COVID** Research Seminar
Python, Pandas, Numpy, Gensim, SciPy
A seminar project to determine the change in sentiment due to COVID-19 pandemic
- April '21 – Aug '21 **NL2SQL and Table Summarization** Academic Research
PyTorch, HuggingFace, Transformer, Java
Scientific team project on the translation of natural language to SQL and table summarization
- Dec '20 – July '21 **Fair Recommendation in Research** | 🌐 Academic Research
Python, Django, NetworkX, Docker
Scientific team project to investigate the fairness issues of recommendations engines for scientific articles
- Aug '20 – March '21 **Medical Image Registration using Deep Learning** Academic Research
PyTorch, UNet, Weights and Bias
Scientific team project MRI image registration using DL.
- June '20 – Aug '20 **Genre Detection of Gutenberg Corpus** | 🌐 Course Project
Python, Gensim, SVM, Ensemble Learning
Genre detection using linguistic features of the highly imbalanced dataset of 19th century fictional literature.

Educational Background

- Present **M.Sc. in Data and Knowledge Engineering (Data Science)**
Otto-von-Guericke University of Magdeburg, Deutschland.
CGPA - 1.6
- B.Sc. (Eng.) in Computer Science and Engineering**
Shahjalal University of Science and Technology
Sylhet, Bangladesh
CGPA - 2.1 (German Scale, standardized by Uni-Assist)