

Mohammad Shoaib

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Summary — Dynamic and results-driven computer science professional with expertise in artificial intelligence, robotics, and software development. Proven experience in designing and deploying data-driven solutions. Committed to continuous learning and applying innovative technologies to drive efficiency and effectiveness.

Skills

Languages & Frameworks : Python, C++ , CUDA, JavaScript, bash, Qiskit
Data Science : TensorFlow, PyTorch, Computer Vision, NLP, Multi-modal Models
Robotics : ROS2, Gazebo, Nav2, ros2_control, MoveIt, RViz
Dev Ops : Docker, Kubernetes, Azure, AWS, git, NGINX
Backend : Fast API, Flask, postgresql, Elasticsearch, REST APIs

Experience

North South University, Dhaka Aug 2024 – Present
Teaching Assistant

- Assisting in teaching "Computer Architecture and Organization" course covering topics of MIPS, assembly language, verilog and cpu design
- Holding office-hours and grading assignments and quizzes

NITEX Dec 2023 – July 2024
Jr. AI Engineer

Automated Fashion Attributes Tagging

- Designed, developed, and deployed a pipeline to download photos from specific Instagram accounts, and tag the category and other fashion related attributes of clothing items present in the photo using multi-model models
- Technologies: deepseek-vl, llama, OpenAI APIs, Nvidia Triton, docker, postgresql, elasticsearch, instaloader, bs4, playwright, Fast API, pydantic, uvicorn, streamlit

Automated Data Extraction from PDFs

- Designed and developed a service to extract specific data from pdfs in JSON format
- Tested available data extraction APIs and frameworks to find the best matching for our task
- Containerized the service with other services and deployed on AWS's ECS, Fargate and Lambda
- Technologies: Azure Doc Intelligence, OpenAI APIs, Google Cloud Vision API, Amazon Textract, mindee, Tesseract OCR, docker, AWS's ECS, Fargate and Lambda

Google Summer of Code 2022 May 2022 – Sep 2022
Contributor at TensorFlow

- Implemented the Swin Video Transformer models using TensorFlow
- Converted the weights from PyTorch to TensorFlow 2 and uploaded them to TensorFlow Hub
- Created notebooks demonstrating how to fine-tune the models

DeepPavlov.ai Dec 2021 – April 2022
Research Intern

- Created dialogue graphs from MultiWOZ dataset using tf-idf, topic modeling, xmeans, dbscan etc.

Education

North South University, Dhaka July 2023 – Present
Master of Science in Computer Science and Engineering
CGPA: 4 out of 4 (18 credits)

Bangladesh University of Textiles, Dhaka Jan 2017 – Dec 2022
Bachelor of Science in Textile Engineering
Major: Industrial and Production Engineering
CGPA: 3.12 out of 4 (165 credits)

Rajuk Uttara Model College, Dhaka July 2014 – June 2016
Higher Secondary Certificate
GPA: 5 out of 5

Projects

TurtleBot3 Patrolling	2024
<ul style="list-style-type: none">- Simulated TurtleBot3 patrolling a designated area using Navigation 2 in ROS 2 and Gazebo.- Implemented Behavior Trees (C++) for decision-making.- Utilized ROS 2 launch for automated simulation setup.	
Img2JSON	2024
<ul style="list-style-type: none">- A web app for extracting attributes from an image depending on the query- Used deepseek-vl, which is a vision-language model, to extract attributes from images- Technologies: computer vision, docker, hugging face, Fast API, Streamlit	
GetAudio	July 2023
<ul style="list-style-type: none">- A microservice architecture-based distributed system for extracting audio from videos- Setup and managed docker containers for gateway, authentication, and converter tasks into Kubernetes pods- Used RabbitMQ with PersistentVolumeClaim for queuing tasks and notifications- Managed deployment, replication, auto-healing, and auto-scaling for Kubernetes clusters on AKS	

Certifications

IBM Certified: Associate Developer for Quantum Computing	2023
Microsoft Certified: Azure Data Scientist Associate and Data Analyst Associate	2022
Architecting with Google Compute Engine Specialization from Google	2021
MicroMasters in Supply Chain Management from MITx	2020 – 2021
Google IT Support Professional Certificate from Google	2020
Google Project Management Specialization from Google	2021
Complete Web Development Course with Jhankar Mahbub from Programming Hero	2020
TUM Lean Six Sigma Yellow Belt from Technical University of Munich	2020

Publications

3D printing technology for textiles and fashion , Textile Progress, Taylor & Francis (Review Paper)	2021
Chotoder Gonit Olympiad (Children’s Math Olympiad), Tamralipi Prokashoni (Book)	2022
Goniter Mojar Prosno O Uttor (Interesting Math Questions and Answers), Oddhoyon Prokashoni (Book)	2018

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Qiskit Developer Advocate, IBM	May, 2023 – Present
Microsoft Learn Student Ambassador (Beta)	2021 – Present
IBM Z Ambassador	Sep 2021 – Dec 2021
Vice President, BUTEX Business Club	2021 - 2022
Campus Teams Coordinator, YSI Bangladesh	2018 – 2019

Languages

Bengali : Native
English : IELTS Score 7.5 (Reading: 8.5, Listening: 8.5, Speaking: 7, Writing: 6.5)
Hindi : Proficient (Understanding)