



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

AI : n8n, LangChain, Nvidia Triton, Ollama, TensorFlow, PyTorch, Computer Vision, NLP, Multi-modal Models

Robotics : ROS2, Nvidia Omniverse (Isaac Sim, Isaac Lab) Gazebo, Nav2, ros2_control, MoveIt, RViz

DevOps : Docker, Kubernetes, Azure, AWS, git, NGINX

Backend : Fast API, Flask, postgresql, Elasticsearch, REST APIs

Experience

NSU Intelligent Robotics (NIRO) Lab, Dhaka

June 2025 – Present

Research Assistant

- Conducting research on Vision-Language-Action Models (VLAMs) and Reinforcement Learning (RL) for robotics
- Developing and testing robotic control strategies using NVIDIA Isaac Sim and Lab for modeling and simulation
- Developing and deploying AI models on embedded edge devices (Jetson Orin, Xavier NX, Raspberry Pi, OpenCR), integrating perception and decision-making pipelines for real-time robotic applications.
- Designing and implementing ROS2-based software systems for robot control, planning, and distributed multi-robot communication.

North South University, Dhaka

Aug 2024 – Dec 2024

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

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

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 <i>Master of Science in Computer Science and Engineering</i> CGPA: 3.92 out of 4 (24 credits)	July 2023 – Present
Bangladesh University of Textiles, Dhaka <i>Bachelor of Science in Textile Engineering</i> Major: Industrial and Production Engineering	Jan 2017 – Dec 2022
Rajuk Uttara Model College, Dhaka <i>Higher Secondary Certificate</i>	July 2014 – June 2016

Projects

AutoStock Insight	2025
– Automatically retrieves daily stock prices, generates AI-driven market sentiment, and updates a Google Sheet with insights.	
– Built in n8n using the Schedule Trigger node to run on a set cron schedule, the Google Sheets node to read tickers and write results, and the Split In Batches node to process sequentially.	
– Uses the HTTP Request node to call Alpha Vantage's API for real-time prices, then feeds each price into n8n's OpenAI node for per-ticker sentiment analysis, and writes back price and analysis to the sheet.	
Img2JSON	2024
– 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	
TurtleBot3 Patrolling	2024
– 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.	
GetAudio	July 2023
– 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	
WebMart	2021
– An e-commerce web app built with JS (React, Express) that communicates with a Django-based backend	
– Features: Payment using Stripe, a dashboard for product management & order management, reviews & ratings, search capability, and standard ordering process	

Certifications

Large Language Model Agents MOOC from UC Berkeley	2024
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 Mojor Prosno O Uttar (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 – 2024
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)

Chinese : Passed HSK 1

Hindi : Proficient (Understanding)