

Hassan Rehman

📍 Lahore, Pakistan, 54000



📞 +92-321-6800811 · ✉ rehmanhassan.ai@gmail.com · 🌐 hassan119 · 📧 hassanrehman11

AI Engineer | Data Scientist | Software Engineer | Python Developer | MLOps

Summary

As an accomplished AI Engineer, I possess a solid track record of five years in the field, specializing in computer vision, deep learning, predictive modeling, data wrangling, architecture design, and backend programming. My primary objective is to deliver exceptional quality work to clients while driving innovation within the field. With a firm commitment to working diligently and adhering to ethical practices, I strive to achieve optimal results by leveraging smart and efficient methodologies.

Area of Expertise

✓ Machine Learning	✓ Computer Vision	✓ NLP	✓ Chatbots & LLM's
✓ Image Processing	✓ Data Wrangling	✓ Medical Images	✓ Deep Learning
✓ Backend Development	✓ AI Consultation	✓ DevOps / MLOps	✓ Rapid Prototyping
✓ Web Scraping	✓ Research and Analysis	✓ Generative AI	✓ Coaching & Training

Professional Experience

Senior AI Engineer - Team Lead — Nextbridge, Lahore, Pakistan

Oct 2018 — Present

Progressed from an intern position in Data Science to becoming an Associate AI Engineer, and subsequently advanced to the role of Senior AI Engineer with lead responsibilities.

- Successfully led and motivated teams to achieve project goals and deliver high-quality results.
- Effectively managed the integration of Deep Learning models with backend APIs to enable seamless functionality.
- Engaged in continuous research and exploration of cutting-edge technologies to stay ahead of industry trends and drive innovation.
- Spearheaded architectural-level designs for projects, ensuring efficient and effective software development processes.
- Demonstrated expertise in ML-Ops and DevOps, streamlining development and operations for seamless project execution.
- Designed and implemented cloud architectures tailored to project requirements, optimizing performance and scalability.
- Prepared comprehensive timelines and feasibility reports, guiding decision-making and ensuring project success.
- Played a key role in recruiting and training new team members, providing them with a clear roadmap for professional development during their training period.

Key Achievements

- ✓ Provided a groundbreaking AI-driven solution to a key client, resulting in 200% increase demand for our resources.
- ✓ Successfully overturned a challenging patent claim, resulting in 100% of increase in client satisfaction and ensuring the retention of a critical project.
- ✓ Recognized as a top-performing employee and awarded a new car in recognition of exceptional contributions.
- ✓ Initiated the data science department's growth and drove major team expansion to 3x.

Education

Master's in Data Science – FAST NUCES, Lahore, Pakistan – 3.13 CGPA

Sep 2021 — Aug 2023

Bachelor's in Computer Science – Islamia University, Bahawalpur, Pakistan – 3.68 CGPA

Oct 2014 — Aug 2018

Core Skills

Programming Tools & Skills — Python, C++, Django, Flask, Tensorflow, Pytorch, Keras, OpenCV, LLM's, Hugging Face, SQL, MongoDB, Pandas, PySpark, DjangoORM, DynamoDB, REST API, Docker, Android, BeautifulSoup, SimpleITK, Nibabel, Selenium, Scrappy, Javascript, RASA NLU, Dialogflow, Git, Nginx, Apache, Linux

Cloud Computing Skills — AWS[EC2, Lambda, ECS, SageMaker, ECR, S3], GCP[Compute Engine, DataProc]

Soft Skills — Negotiation, presentation, logical thinking, story telling, research

Projects

GAN based Image Enhancement – ITGlobe Project

- Designed cloud architecture, developed backend, and DL pipelines.
- Implemented Old Image Enhancement.
- Implemented Low Light Enhancement.
- Implemented upscaling of an image.
- Implemented colorization of black and white image.
- Deployed deep learning pipelines on AWS SageMaker.

dAIsy (Approved by FDA) – Lead AI engineer / Backend Developer

- Designed cloud architecture, developed backend, and DL pipelines.
- Conducted instance segmentation of vertebral bodies (lumbar + sacrum) from CT scans.
- Contributed to FDA filing, achieving 96% accuracy, and performed statistical analysis.
- Implemented 3D landmarking for adjustment.
- Conducted 510(k) testing on data based on ethnicity, race, and age.
- Utilized IOU score and Hausdorff distance for evaluation.
- Implemented the CI/CD pipelines.
- Deployed deep learning pipelines on AWS services (SageMaker, ECR and Lambda).

Lordosis & Scoliosis Angle Detector – Lead AI engineer / Backend Developer

- Collected and annotated XRay images for Lumbar Lordosis and Scoliosis.
- Utilized YOLOV8-Pose for Lumbar Lordosis and Scoliosis detection.
- Developed an API accepting DICOM, PNG, and JPEG formats.
- Employed AWS Lambda to deploy the code with an API Gateway endpoint.

Divorce Assistant Chatbot (LLM) – Lead AI engineer / Backend Developer

- Fine-tuned the LLaMA model using a customized dataset for a more friendly conversational tone.
- Dataset tailored to address divorce needs in the California region.
- Quantized the model for efficient production deployment.
- Chatbot guides users on the process of filing for divorce.
- Provides suggestions for building a better life post-divorce.

Telsmart – Backend Developer

- Created microservices to handle loads of data of the person and their contacts.
- Designed a pipeline that validates the phone numbers based on their location.
- Combined ECS, Lambda and S3 to make a pipeline. The Django app was uploaded on ECS.
- Handle exceptions and provide feedback to change.

AggDrone – AI Engineer / Backend Developer

- Designed software architecture. Developed backend + Computer Vision Pipelines.
- It converts 2D drone images to 3D models. The goal is achieved by computer vision and photogrammetry techniques.
- Purpose of the project is to calculate the volume of terrain at different positions.
- Developed in Python using Django and deployed on GCP
- Developed a tool in Three JS for calculation of volume.

Other Projects

- **Ikra Quran App <AI Engr>**: Based on NLP combined with phonetic algorithm for Quran's information retrieval.
- **Sentry View <Backend Dev>**: Application for one point access and control of multiple IP cameras.
- **HurryPark <AI Engr>**: Mobile application based ANPR system for detecting Pakistan's all sort of number plates.
- **CoinCrypto <Data Scientist>**: An application based on real time forecasting & data analysis of crypto coins.
- **Mining site surveillance <AI Engr>**: IOT based project for custom object detection and surveillance deployed on Jetson Xavier.

Thesis & Publications

- ✓ Segmentation and Identification of Level of Tooth Decay from Bitewing XRays – Master's Thesis
- ✓ 2D UNET Segmentation of Mitochondria from Electron Microscopic Images – Published Paper
 - DOI: www.doi.org/10.56726/IRJMETS29962

Certifications

- ✓ Generative AI with Large Language Models | coursera.org/verify/QW9YUJFMR7TE
- ✓ Modernizing Data Lakes and Data Warehouses with GCP | coursera.org/verify/2CVWQDCG9MDB
- ✓ Google Cloud Platform Big Data and Machine Learning Fundamentals | coursera.org/verify/MGFRRPAJSZXV
- ✓ Corporate Communication Skills | nextbridgeinstitute.com/certificate?cid=602e4d86f0265