

Ghulam Murtaza

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LinkedIn  | Github  | ResearchGate  | ORCID 

SUMMARY

Versatile Python developer and researcher with a strong foundation in Mechatronics Engineering and an MSc in IoT & Wireless Technologies. Experienced in building scalable backend systems using FastAPI and Django, integrating AI/ML models, and deploying automation-driven solutions. Skilled in data engineering, API design, and containerized microservices (Docker & Kubernetes) with hands-on expertise across SQL/NoSQL databases. Published researcher in machine learning applications for healthcare, with academic and project work spanning computer vision, deep learning, and IoT-driven systems. Combines technical depth with problem-solving and innovation to deliver reliable, efficient, and research-backed software solutions.

EXPERIENCE

Python Developer, Quantilytics – Remote, UK Aug 2025 — Present

- Integrated AI agents and LLM APIs (e.g., OpenAI) into backend systems.
- Designed and developed backend services using FastAPI and Django.
- Worked extensively with PostgreSQL and MongoDB databases.
- Containerized backend applications using Docker.
- Managed deployments using Kubernetes for high availability and scalability.

IT Support Officer, i3 Pathfinder Solutions – Karachi, PK June 2023 — Sept 2023

- Retrieved and analyzed SQL Server data using Python for sales insights.
- Optimized SQL databases to support complex data structures.
- Trained operational staff on terminal automation projects.

Service Engineer, Atlas Engineering & Controls – Lahore, PK July 2022 — Feb 2023

- Commissioned terminal automation projects.
- Installed and programmed metering systems at filling bays.
- Trained operational staff on terminal automation projects.

IT Mentorship Trainee, Pakistan State Oil Company – Karachi, PK Sept 2021 — July 2022

- Retrieved and analyzed SQL Server data using Python for sales insights.
- Supported retail automation and SAP-based job creation for filling stations.
- Optimized SQL databases to support complex data structures.
- Trained operational staff on terminal automation projects.
- Collaborated with vendors to gather requirements and provide ongoing support.

SKILLS

Languages: Python, SQL, JavaScript, C/C++

Frameworks/Libraries/Tools: Django, Django Rest Framework (DRF), FastAPI, Flask, Streamlit, React JS, REST APIs, Postman, Selenium, BeautifulSoup, OpenAI API integration, LLM-based agents, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Vector Databases (ChromaDB), Google Colab, Jupyter Notebook, MySQL, PostgreSQL, MongoDB, Redis, ORM (SQLAlchemy, Django ORM), ERDs, Docker, Kubernetes, Git, LaTeX.

EDUCATION

MSc in Internet of Things & Wireless Technologies Sept 2023 — June 2025

Skolkovo Institute of Science & Technology, Moscow, Russia

- Final Grade: A
- **Coursework:** Deep Learning, Machine Learning, Computer Vision, Data Science, Internet of Things

- **Thesis Title:** Data Generation And Data Analysis of Parkinson's Disease Freezing of Gait Using Machine Learning
BE in Mechatronics Engineering Nov 2016 — Jan 2021
Mehran University of Engineering & Technology, Jamshoro, Pakistan
- GPA: 3.94/4.0
- **Coursework:** Machine Intelligence, Object-Oriented Programming, Data Structures, Robotics, Industrial Automation
- **Thesis Title:** Development of Smart Wristband for Health Monitoring of Elderly People using IoT

PUBLICATIONS

Multi-Modal Feature Set-Based Detection of Freezing of Gait in Parkinson's Disease Patients Using SVM
Ghulam Murtaza, Mohammad Hammoud, Andrey Somov
DOI: 10.1109/ACCESS.2025.3585099

DoppelGANger-Based Synthesis of Accelerometer Data for Parkinson's Disease Freezing of Gait Detection
Ghulam Murtaza, Mohammad Hammoud, Andrey Somov


Percolation Threshold of Graphene Islands on a Dielectric Substrate
Mohammadreza Salehpour, Natalia Khoteeva, Artem Grebenko, Elena Zhukova, Kirill Malgin, *Ghulam Murtaza*, Nikita Gordeev, Nikita Raginov, Oleg Trepalin, Boris Gorshunov, Dmitry Krasnikov, Albert Nasibulin

PROJECTS

Multi-functional Infant Care System (MICS)


- Built deep learning models for infant cry interpretation and care suggestion.
- Tools Used: Python, Deep Learning, Android Studio

Swin-UNet Segmentation

GitHub 

- Applied Transformer-based architecture for retinal vessel segmentation.
- Tools Used: Python, Transformers, Computer Vision

Diabetic Retinopathy Classification

GitHub 

- Explored different Vision Transformers for the classification of diabetic retinopathy using retinal images.
- Tools Used: Python, Transformers, Computer Vision

CERTIFICATIONS

Deep Learning with PyTorch : Generative Adversarial Network – Sept 2025



Python for Data Science, AI & Development – July 2023



Data Science Methodology – May 2023



Data Analytics Essentials – Apr 2023



Intro to Data Science – Apr 2023



Python Data Structures – Mar 2022

