

Aaqib Mehrban

Machine Learning Engineer & Full-Stack Developer
building AI-powered BIM, computer vision, and
geospatial solutions.

Experience

Machine Learning Engineer · [Make a BIM](#)

Jul 2024 – Present

Helsinki, Finland · Hybrid

- ▶ Built the company's first web application from scratch with Next.js, React, Tailwind CSS, and BIM/IFC technologies, then delivered a second-generation platform with redesigned UI, authentication, user management, and payment integration.
- ▶ Designed and implemented the complete ML pipeline — dataset preparation, preprocessing, augmentation, training, evaluation, and deployment — shipping 20+ instance segmentation model releases and raising overall model performance to 74%.
- ▶ Improved raster-to-vector floor plan conversion accuracy by ~40% and cut backend processing time by up to 4× through AI-driven automation and infrastructure improvements.
- ▶ Built scalable Python/Flask services on Google Cloud Platform (VMs, Artifact Registry, Docker, background workers) with automated GitLab CI/CD.
- ▶ Led R&D in computer vision and point cloud processing, partnering with architects and product stakeholders to turn research into production-ready AI solutions.

Full Stack Developer · [Fornax Technologies](#)

Jan – Jul 2023

Islamabad, Pakistan · On-site

- ▶ Led a cross-functional team of 4 (2 backend, 1 frontend, 1 UI/UX), streamlining task allocation and fostering collaboration.
- ▶ Served as primary technical contact for clients, translating business requirements into specs and delivering 10+ full-lifecycle projects from concept to production.
- ▶ Contributed hands-on across frontend and backend to unblock engineers and accelerate delivery, and established company-wide code review processes and standards.

Python Developer · [MARKT-PILOT](#)

Jun – Dec 2022

Germany · Remote

- ▶ Created 100+ web scrapers for real-time data collection, enriching product features with current information from diverse sources.
- ▶ Optimized a Python ETL pipeline for faster, more accurate analysis and authored detailed documentation for the scrapers and data tools.

Geospatial Engineer · [Horizon Technology](#)

Jan 2021 – May 2022

Islamabad, Pakistan · Hybrid

- ▶ Built a defense insights dashboard from scratch, enabling real-time monitoring and geospatial analytics of warships and ground radar from satellite imagery for 10,000+ daily users.
- ▶ Trained, evaluated, and deployed computer-vision models for object classification, writing custom inference scripts to integrate them into the web application.
- ▶ Built Land Use / Land Cover (LULC) classification tools and scalable pipelines to clean, analyze, and visualize high-resolution spatial and radar data.

GIS & Remote Sensing Intern · [NDMA Pakistan](#)

May – Aug 2020

Islamabad, Pakistan · On-site

- ▶ Processed multi-temporal optical and SAR satellite imagery to map and assess nationwide flood extent and progression across Pakistan.
- ▶ Produced flood-extent and historical-pattern maps to support disaster response, risk reduction, and mitigation planning.

✉ rajaaaqib775@gmail.com

☎ +358 41 721 6858

🌐 aaqibmehrban.dev

🌐 linkedin.com/in/aaqibmehrban

Skills

Languages

Python, JavaScript, TypeScript, C#

Frameworks & Libraries

React.js, Next.js, Node.js, Express.js, Django, Flask, FastAPI, PyTorch, TensorFlow, OpenCV, Three.js, Cesium, Thatopenifc

ML & Geospatial

Computer Vision, Instance Segmentation, MLOps, Point Cloud Processing, BIM/IFC, GIS, PostGIS, MapServer, GDAL, Rasterio

Tools & Platforms

Docker, GitLab CI/CD, Google Cloud Platform, PostgreSQL, MongoDB, Redis, Selenium, Git, Linux, Figma, ArcMap, QGIS

Selected Projects

[Make a BIM — floor2IFC](#)

2025–Present

AI SaaS converting orthographic floorplan drawings into 3D BIM models via computer vision, instance segmentation, and IFC generation.

[AeroTactic — Airport Turnaround & Gate Ops](#)

2025

Real-time dashboard for 4,500+ airports with an in-browser mixed-integer gate-assignment optimizer and zero backend.

[Helsinki Transport Carbon Emissions](#)

2025

Master's thesis analyzing Helsinki-region public-transport carbon emissions (2017–2023) with GIS routing and emissions modelling.

[Developer Folio](#)

2024

This portfolio site, built with Next.js, React, and Tailwind CSS.

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Education

[Aalto University](#)

M.Sc. in Geoinformatics Engineering
Espoo, Finland · 2023 – 2025

Interests

Football, camping, and fishing.