



Aashan Javed

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Nationality: Pakistani

ABOUT MYSELF

ML engineer working in climate and geospatial AI, I build 10 m, 2 m-level forecasts and ship models into real products and dashboards.

WORK EXPERIENCE

FortyGuard - Abu Dhabi, United Arab Emirates

[01/01/2025 – Current] **Machine Learning Engineer (Research and Development)**

- Predicted **2 m air temperatures at 10 m spatial resolution**, reaching **85%+ accuracy** on historical and current data.
- Achieved **~70% forecasting** skill score vs persistence baseline for 2 m temperature prediction.
- Improved inference speed, enabling faster deployment of climate intelligence models for urban-scale planning.

FortyGuard - Abu Dhabi, United Arab Emirates

[27/05/2024 – 31/12/2024] **Software Engineer (Machine Learning) - Internship**

- Automated temperature data processing pipelines by integrating frontend dashboards with ML-driven backend APIs, boosting analytics **efficiency by 20%**.
- Implemented caching and query optimization that **reduced response time by 40%**, enabling faster real-time climate insights.
- Optimized the MLOps pipeline, **slashing deployment time 35%** and enabling 3x faster model releases.

Payactiv - Islamabad, Pakistan

[22/06/2023 – 22/09/2023] **Machine Learning Engineer - Internship**

- Developed fraud anomaly detection models and techniques; **improved precision by 22%**.
- Explored LLM-based scoring methods for risk analytics.

EDUCATION AND TRAINING

[09/2020 – 06/2024] **Bachelor of Science in Computer Science (BSCS)**

National University of Computer and Emerging Sciences (FAST), Islamabad, Pakistan <https://isb.nu.edu.pk/>

| **Final grade:** Gold Medalist (7th Semester) | Rector's List of Honor (7th Semester) | **Level in EQF:** EQF level 6

- Computer Science (algorithms, OS, DBs) · AI & ML (supervised/unsupervised, deep learning, deployment) · Systems & Programming (Python, Java, C++, web, data pipelines) · Applied Projects (climate models, fraud detection, sign language AI)

ONGOING RESEARCH WORK

Urban Temperature Prediction and Forecasting at 2m level with Diffusion Models

Developing diffusion-based generative models for high-resolution urban temperature forecasting at 2 m level. Currently benchmarking against baseline models for urban heat mapping and validating results with observational data.

PUBLICATIONS

[Decoding Coarse Climate Variables to 10 m Using Geospatial Foundation Embeddings. \(Pre Print\)](#)

Short: Downscales coarse climate fields into 10 m maps using foundation embeddings, aimed at city-scale planning.

Authors: Aashan Javed | **Publisher:** Zenodo

[AlphaEarth Climate Monitoring System: High-Resolution Climate Monitoring with Foundation Models \(Pre Print\)](#)

Short: Foundation model embeddings for 10 m climate insights, with similarity search and change detection for urban tiles.

Authors: Aashan Javed | **Publisher:** Zenodo

[Visit for more](#)

PROJECTS

AlphaEarth Climate Monitoring System

- Integrated DeepMind’s AlphaEarth foundation model with geospatial pipelines to deliver 10 m climate insights.
- Enabled scalable temperature prediction, similarity search, and change detection for urban planning.
- Improved satellite-based anomaly-detection accuracy by ~17% versus baseline.
- **Github:** <https://github.com/Aashan47/AlphaEarth-Climate-Monitor->

Fraudulent Transaction Detection System

- Engineered pipeline (Python, scikit-learn, SMOTE, boosting) achieving ~94% F1 on an imbalanced banking dataset.
- Reduced false negatives by ~23% vs baseline, minimising undetected fraud risk.
- Benchmarked on public, Kaggle-style datasets to test robustness.
- **Github:** <https://github.com/Aashan47/Fraudulent-Transaction-Detection-System>

Real-time Sign Language Communication System (Final Year Thesis)

- Built ASL-to-text system (OpenCV, TensorFlow) with 90%+ accuracy on 25+ gestures; real-time <200 ms latency; extended to sentence-level translation.
- Github: <https://github.com/Aashan47/Real-time-Sign-Language-Communication-System>

SKILLS

Technical / Research / Leadership & Collaboration

Python | TensorFlow | PyTorch | scikit-learn | supervised/unsupervised learning | deep learning | SQL/NoSQL, | Large Language Models | generative models (diffusion, transformers) | Kafka | Docker/Kubernetes | Spark | Airflow | AWS/Azure | FastAPI | CI/CD | QGIS | Google Earth Engine | React/Angular | system design | latency & cost optimization | experimental design, | LaTeX/Overleaf | data visualization (matplotlib/Plotly) | mentoring interns | Clear communication | cross-disciplinary teamwork | statistical inference | prototyping novel approaches | Quick adaptability | Team leadership | sprint planning

CERTIFICATIONS

Machine Learning Specialization — Stanford Online (07/2023)

IBM Data Science Specialization — IBM (01/2024)

Google Data Analytics — Google (08/2023)

HONOURS, AWARDS & COMMUNITY ENGAGEMENT

Rector’s List of Honor | Gold Medalist – FAST (Academic Excellence, Top Ranking Student)

Runner-up - ICC Hackathon (international finalist, cricket analytics)

Digital Volunteer - Alkhidmat Foundation (education, health, flood relief, 2022)

Other roles: Campus Ambassador (Youth for Pakistan), Head of Info (FAST NUCES Community Service Society), Google Cloud Community member (workshops, cloud events)