

# Muhammad Ghufuran Akbar

Nuremberg, Germany | +49 1577 5622441 | [ghufuran.akbar99@gmail.com](mailto:ghufuran.akbar99@gmail.com) | LinkedIn : [ghufuranakbar](#) | Portfolio: [ghufuranakbar.github.io](#)

## EDUCATION

Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)  
M.Sc in International Information Systems

Nuremberg, DE  
Oct 2024 - Sept 2026

Ghulam Ishaq Khan Institute of Science & Technology (GIKI)  
B.Sc in Engineering Sciences; **Gold Medallist**

Topi, PK  
Aug 2018 - July 2022

## WORK EXPERIENCE

### PUMA GROUP

Herzogenaurach, BY, DE

#### Global Ecommerce Engineering - Working Student

Apr 2024 – Present

- Improved operational efficiency by unifying the **Order Management System (OMS)** across 5 regions, integrating **SAP ERP, SFCC, payment gateways, carriers, and warehouses** via **GQL**.
- Reduced infrastructure costs and enhanced scalability by migrating **cloud operations** to **GCP**, implementing **CI/CD** and **Terraform** scripts.
- Streamlined reporting and testing by building Flask and Node.js reporting tools on **GCP with load balancer** and **Playwright/Python** automated testing scripts for OMS.
- Achieved **98% UAT** success in global rollouts of **omnichannel features** (Click & Collect, Endless Aisle), enhancing customer experience..
- Optimized **forecasting and inventory planning** by developing an **AI-driven order projection** tool using **Vertex AI, Python, Pandas, Scikit-learn, dbt, Airflow, and BigQuery**.

### BANK AL HABIB LIMITED

Karachi, PK

#### Software Architect & Developer

Aug 2022 – Sep 2023

- Modernized the legacy banking system by designing a new **microservices-based architecture** using **Java Quarkus**, leading to a **30%** reduction in deployment time and improved system scalability; actively contributed to service orchestration and performance optimization.
- Built and maintained full-stack applications using **ASP.NET Core, Vue.js with TypeScript, and Next.js**, while developing RESTful APIs for internal and external services to ensure secure, efficient system communication across the consumer banking ecosystem.
- Delivered analytical reports and dashboards using **IBM Cognos** and **Power BI**, streamlining non-financial transaction analysis and improving reporting efficiency by **40%**, supporting strategic decisions with data-driven insights.

### THRIFLE TECHNOLOGIES (start up led by 3 people based in USA)

Remote

#### Business Development Specialist

Aug 2021 – July 2022

- Defined KPIs and performed user behavior analysis using **Google Analytics** to support data-informed product decisions.
- Created **wireframes** for platform development and wrote product descriptions to support UI/UX design and go-to-market readiness.

## PROJECTS

### IOT-BASED AIRPORT LOGISTICS DATA ANALYTICS & ML PLATFORM

- Designed **end-to-end Python pipeline** to **extract, clean,** and timestamp semi-structured log data from airport AKL systems, significantly **optimizing data processing workflows** and reducing manual effort.
- Tracked complete box journeys to generate **actionable datasets** for **operational analysis**.
- Built **ML models** to **identify failure points** and **predict delays**, uncovering **3,000+ potential disruptions**.
- Diagnosed **conveyor idle times** as key bottlenecks, enabling **predictive maintenance** and **workflow optimization**.
- Delivered **real-time visibility** across provisioning operations, improving **efficiency** and reducing **downtime**.

### SUPER RESOLUTION USING HYPERSPECTRAL IMAGING AND ATTENTION BASED CNN

- Developed a **deep learning framework** to **2× spatial resolution** of hyperspectral images while retaining 90%+ spectral similarity for improved ore classification.
- Built **attention-based CNN** to fuse **low-res HSI (100×100×240)** with **high-res MSI (400×400×3)**, boosting PSNR by ~4 dB over bicubic interpolation.
- Preprocessed and analyzed 250+ HSI cubes using Python and MATLAB, **optimizing pipelines** for better model generalization.
- Secured **2nd place** among 20+ projects, delivering a low-cost **ML super-resolution** prototype for **TerraCore's mining operations**.

### FINANCIAL ANALYSIS FOR NEW MANUFACTURING UNIT

- Simulated **1,000+ Monte Carlo scenarios** using **NPV, perpetuity, and pricing contract models** to evaluate 10-year financial viability for setting up a new manufacturing unit.
- Identified a **75% likelihood of positive NPV**, highlighting profitability under varying cost and revenue assumptions to guide investment decisions.
- Designed an interactive **Power BI dashboard** with pivot tables to visualize simulation results, breakeven timelines, and risk sensitivity for executive stakeholders.

## ACHIEVEMENTS & SKILLS

**Technical Skills:** C++, C#, Vue.js, Python, BigQuery, Database & SQL, Java Quarkus, React, Express JS, Node JS, TensorFlow, GQL, Arduino

**Software:** MATLAB, Simulink, PowerBI, Tableau, GCP, Jira, Confluence, Adobe Photoshop & Illustrator, Proteus, Solid Works, Neo4J

**Certifications & Training:** Data Science Professional Certificate (IBM), Data into Information using PowerBI (SCT)

**Awards:** Gold Medallist; 1st in BAHIL IT Trainee Program; **Dean's Honor Roll** in 5 semesters;

**Languages:** English(C1), German(A2), Urdu (Native)