

# LATIF AKGÜN

AI & QML Researcher

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## Education

### Yildiz Technical University

Bachelor of Statistics | GPA: 3.44 / 4.00

Sep. 2023 – June 2028

Istanbul, Turkey

## Experience

### EyeBall (Deep-Tech AI Startup)

2025 – 2026

Co-Founder & AI Architecture Lead

Istanbul, Turkey

- Co-founded a deep-tech computer vision startup and accelerated at **Istanbul Technical University (ITU) Cekirdek**, ranked by UBI Global among the world's top university-affiliated business incubators (2021–22 World Rankings).
- Owned the AI architecture end to end: designed the computer vision and deep learning pipeline converting raw multi-camera video feeds into structured, high-fidelity spatiotemporal trajectory datasets.
- Architected unsupervised learning components to model high-dimensional behavioral data, autonomously clustering latent agent archetypes and tactical roles beyond conventional nominal categories.
- Defined the scalable ETL data pipeline and analytical layer translating dense tracking data into actionable strategic intelligence for end users.

### Microsoft Turkey – AI Innovators Internship Program

Summer 2026

AI & Quantum Computing Intern

Istanbul, Turkey (Remote)

- Ported a PennyLane QAOA MaxCut prototype to **Q#**: Q# builds and samples the circuit, Python counts cut edges and optimizes the angles with COBYLA.
- Added an **Azure Quantum Resource Estimator** sweep (qubits, runtime, physical resources vs. graph size) with no counterpart in PennyLane/Qiskit.
- Delivered documented code (README, DESIGN), a public GitHub repository and a 5-minute technical demo video; awarded a Certificate of Completion (Aug 2026).

### KolayGider (AI-Powered Expense Management SaaS)

2026

AI Integration & Release Engineering

Istanbul, Turkey (Remote)

- Benchmarked candidate OCR and vision-language models for automated receipt and invoice parsing, selecting **Mistral** based on field-level accuracy and cost on Turkish fiscal documents.
- Redesigned the extraction prompts iteratively, driving structured multi-field output (merchant, tax ID, date, taxable base, VAT) to production-grade reliability.
- Implemented **Supabase** integrations (PostgreSQL, Auth, Storage) and shipped the production web deployment.
- Managed **Google Play Console** and **Apple Developer** release pipelines, and led end-to-end QA across the expense approval workflow, VAT computations and **Iyzico** subscription payment flows.

## Projects

### xEntanglement (in Progress)

- Architecting a hybrid quantum-classical machine learning framework to quantify complex multi-agent spatial organization from high-frequency optical tracking data.
- Integrating parameterized quantum circuits with classical deep learning models to capture holistic structural states and systemic entanglement.
- Leveraging quantum principles to extract advanced macro-level relational features, modeling complex inter-agent dependencies beyond classical computational limits.

### EyeBall Scout : Unsupervised Player Archetype Analysis Engine

- Developed an unsupervised manifold learning pipeline to autonomously discover latent behavioral archetypes within high-dimensional datasets.
- Applied UMAP for non-linear dimensionality reduction and Gaussian Mixture Models (GMM) for probabilistic clustering, outperforming traditional K-Means in capturing overlapping variance.
- Built a Nearest Neighbor similarity search engine and deployed an interactive Streamlit application featuring 3D manifold visualizations for real-time inference.

### Tactical Data Analysis & Visualization Suite (Lionel Messi Case Study)

- Engineered a data visualization toolkit using **Python (mplsoccer, Pandas)** to process raw event data from StatsBomb API, analyzing the "False 9" tactical evolution.
- Visualized complex metrics including **Pass Networks, Heatmaps, and xG**, demonstrating the correlation between player positioning and team offensive output.
- Published a comprehensive **data-driven tactical report** on Medium, bridging the gap between statistical findings and traditional scouting methodologies.

## Technical Skills

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**Languages:** Python, R, SQL, Bash/Shell

**Machine Learning & Deep Learning :** Scikit-learn, PyTorch, OpenCV, Matplotlib, Seaborn

**Quantum Computing :** PennyLane, Qiskit, Hybrid Quantum-Classical Architectures, PQC, VQA

**Data Engineering & Cloud:** Pandas, NumPy, PostgreSQL, ETL Pipelines, AWS Architecture

**Developer Tools:** Git, GitHub, n8n (Automation), Jupyter Notebooks, VS Code, Linux (Basic)

**Core Concepts:** ETL Pipelines, Computer Vision, Regression/Classification, Data Cleaning, Hyperparameter Tuning, Dimensionality Reduction

## Certificates

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- **QBronze** – Quantum Computing & Programming (Bronze-Qiskit), QWorld / QTurkey, July 2026 (*Diploma No. QBronze194-14*)
- **QPrep** – Preparation for Quantum Computing & Programming: Linear Algebra & Python, QWorld / QTurkey, July 2026 (*Diploma No. QPrep29-24*)
- **7th International Applied Statistics Congress (UYIK 2026)** – Volunteer Task Force Member; organized by Yildiz Technical University, Tokat Gaziosmanpasa University and the Turkish Statistical Institute (TurkStat), Istanbul, May 2026
- **IBM ile Kodluyoruz : AI4 Future Advanced Level**