



# Loay Berzan

AI Software Engineer

## Education

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**03/2025 - Current**

**Technische Hochschule Deggendorf**

*Master of Science in Applied Computer Science*

Focus: FPGA Programming, Machine Learning, AI & Data Science

**10/2018 - 01/2023**

**Xiamen University (Malaysia Campus)**

*Bachelor of (B.Eng.) Electrical and Electronics Engineering*

Focus: MCU Technology & Engineering, Data Communication Networks, Programming Language C

## Contact

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**Phone:** +4915210351632

**E-mail:** loay.berzan@gmail.com

**Birthday:** 05.12.2000

**LinkedIn:** [www.linkedin.com/in/loay-berzan/](https://www.linkedin.com/in/loay-berzan/)

**GitHub:** [github.com/loayasser](https://github.com/loayasser)

**Portfolio:** [loayberzan.vercel.app/](https://loayberzan.vercel.app/)

## Skills

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- Python
- PyTorch
- TensorFlow
- Scikit-learn
- JavaScript
- Pandas
- NumPy
- SQL
- Docker
- REST APIs
- Data Visualization
- MATLAB
- HTML/CSS
- React
- Git
- RAG Pipelines
- Linux

## Languages

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- English - Fluent
- German - A2
- Arabic - Native

## Practical Experience

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**10/2025 - Current**

**First Semester Student Mentor** | Technische Hochschule Deggendorf | Deggendorf, Germany

- Guide and support first-year students in academic and campus integration.
- Act as a key contact for advice, orientation, and problem-solving.

**09/2025 - Current**

**Kitchen Assistant (MiniJob)** | BaseCoffee | Regensburg, Germany

- Assisting in meal preparation.
- Maintained cleanliness of the kitchen and equipment.
- Organized food storage and ensured items were properly labeled.

**10/2023 - 12/2024**

**Software Developer (Freelancing)** | Hijau Tech SDN BHD | Cyberjaya, Malaysia

- Developed AI-driven analytics dashboards to improve customer engagement insights.
- Built a microservices architecture with Docker and Kubernetes to enhance scalability and reduce downtime.
- Used Git for collaborative development and streamlined version control.
- Implemented serverless workflows with AWS Lambda and API Gateway to optimize infrastructure and improve application performance.



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## Projects

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### German Traffic Sign AI Recognition

- Architected a Deep Learning model using TensorFlow and Keras, designing a custom CNN (Convolutional Neural Network) to classify 43 distinct traffic sign classes.
- Deployed the trained model as an interactive web application using Streamlit, enabling real-time inference and user testing in a production environment.
- **Live Demo:** <https://traffic-sign-recognizergit-hzyappvcpygdvkykdmteyp.streamlit.app/>
- **GitHub Repo:** <https://github.com/loayasser/Traffic-Sign-Recognizer>

### TPM 2.0 integration with Raspberry Pi via SPI

- Hardware connection, system configuration, setup of TPM software environment and validation of cryptographic operations

### FPGA-Project

- RTL coding, testbench creation with ModelSim, synthesis and implementation on Xilinx hardware (Vivado)

### IoT-Weather-Station (ESP32)

- Sensor data acquisition with DHT11 and BMP180, connection to the cloud (ThingSpeak) via MQTT, local display via LCD, development of real-time IoT functions

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**Signature**

**Date**

23.12.2025