

ALAEDDINE YACCOUB

Technical Product Owner | Autonomous Driving Data & AI

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EXPERIENCE

BMW Group

Munich, Germany

Technical Product Owner

01/2024 - Present

- Coordinate technical delivery across 20+ engineers at BMW and two external development partners in three countries, translating stakeholder needs into technical requirements, delivery priorities, and a shared roadmap.
- Manage a €1M+ budget for external development partners, overseeing financial planning, procurement, and budget burn-down tracking.
- Rolled out a semantic search portal for fleet driving data, cutting scenario discovery time from days to minutes and helping teams curate safety-relevant and long-tail cases for model retraining and validation.
- Co-organized a cross-departmental series of hands-on AI workshops and hackathons for 200+ employees, focused on understanding, building and applying AI agentic workflows to support faster prototyping and software delivery.

Autonomous Driving Software Engineer

09/2022 - 12/2023

- Developed core components of a data enrichment engine, making 100,000+ hours of driving data searchable through HD-map labels, signal-grounded VLM annotations, and image-text embeddings to enable scenario discovery, similarity search, and targeted data curation.
- Productionized an AWS-based ground-truth pipeline, using independent roof-mounted LiDAR and cameras to generate object, lane, and road-boundary labels for benchmarking autonomous driving perception models.

Intern/Master's Degree Candidate

04/2021 - 08/2022

- Researched the effects of simulated point cloud distortion on real-time 3D object detection models across diverse driving scenarios.
- Developed calibration and distortion-correction algorithms for solid-state LiDAR point clouds distorted by cover surfaces.

Research Intern, Artificial Intelligence

Hospital on Mobile

10/2020 - 03/2021 Palo Alto, CA (Remote)

- Applied signal processing methods (Wavelet/Fast Fourier Transforms) to remove motion artifacts from PPG signals, improving respiratory-rate prediction accuracy by 15% on average.

Working Student, Software Development

Carl Zeiss AG

01/2020 - 05/2020 Munich, Germany

- Migrated DeepVision Platform models (in-house anomaly detection suite) to TensorFlow 2.0, enabling eager execution, improving flexibility and reducing debugging time by over 50%.

Student Research Assistant, Machine Learning

Karlsruhe Institute of Technology

01/2019 - 09/2019 Karlsruhe, Germany

- Designed and trained a bidirectional LSTM model to forecast short-term power output of 22 photovoltaic plants across Karlsruhe, improving accuracy by 13% over the chair's SARIMAX baseline.
- Published a paper at the 55th International Universities Power Engineering Conference (UPEC 2020).

Working Student, Network Support

United Internet AG

09/2017 - 12/2019 Karlsruhe, Germany

- Provided on-site third-level IT and network support for 8,500+employees worldwide.

TEACHING

Bavarian Academy for Foreign Trade

05/2022 - 09/2022 Munich, Germany

- Taught "Data Structures and Algorithms" to 25 participants in a software development vocational retraining course.

EDUCATION

M.Sc. Electrical Engineering and Information Technology

Technical University of Munich (TUM)

09/2019 - 09/2022 Munich, Germany

- Coursework in Computer Vision, Pattern Recognition, Machine Learning in Robotics and Deep Learning Optimization Methods.

B.Sc. Electrical Engineering and Information Technology

Karlsruhe Institute of Technology (KIT)

10/2015 - 08/2019 Karlsruhe, Germany

- Coursework in Advanced Statistics, Probability Theory, Data Structures, Algorithms and Applied Machine Learning

SKILLS

Technical project delivery, requirements engineering, supplier management, stakeholder coordination, roadmap planning, budget management

Vision-language models, multimodal embeddings, vector search, vLLM

SLAM, LiDAR and camera systems, HD maps, point clouds, sensor calibration

Python, C++, SQL, AWS, Kubernetes, Argo Workflows, Docker

LANGUAGES

French	Bilingual
Arabic	Bilingual
English	Proficient
German	Proficient
Spanish	Intermediate

PUBLICATIONS

Spatio-temporal Short Term Photovoltaic Generation Forecasting with Uncertainty Estimates.

Publisher: Institute of Electrical and Electronics Engineers

https://ieeexplore.ieee.org/document/9209764