Philipp Ahrendt

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Software Engineer with experience in machine learning, computer vision, and distributed systems. Interested in the research and development of machine learning algorithms that solve real-world challenges.

Professional Experience

SEMRON
SOFTWARE ENGINEER

Dresden, Germany
08/2025 - Present

- Designed and built an open-source framework enabling geographically distributed machine learning across heterogeneous hardware, based on DiLoCo and Swarm, selected for Stage 2 of the SPRIND Composite Learning Challenge, a €530k-funded national R&D program by the German Federal Agency for Disruptive Innovation
- Implemented orchestration, communication, and scheduling components to support efficient cross-region training and resource utilization

Flox Robotics
RESEARCH ENGINEER INTERN

Stockholm, Sweden
01/2024 - 10/2024

- Developed altitude-adaptive object detection for UAV imagery using multi-modal sensor inputs (RGB + altitude)
- Improved average precision of small object detection by 2% while reducing number of parameters by 75%

SoundHound
SOFTWARE ENGINEER

Berlin, Germany
04/2022 - 08/2022

- Extended voice assistance API to support a new German-language domain, enhancing natural language understanding and generation capabilities
- Increased testing efficiency by enhancing a Python-based tool using pair-programming

Ayrendoo
COFOUNDER AND LEAD DEVELOPER

Berlin, Germany
06/2019 - 10/2020

- Developed a Swift-based social meetup app with map, group chat, and Firebase-backed data infrastructure

ETAS K.K. - Subsidiary of Robert Bosch GmbH
CYBERSECURITY ENGINEER INTERN

Yokohama, Japan
08/2019 - 01/2020

- Developed a Python-based interface enabling proprietary C-based hardware (CAN-bus) to integrate seamlessly with the open-source python-can tool
- Created a testing suite to streamline the evolution of a penetration-testing tool, ensuring functionality after each code modification

Artiminds Robotics GmbH
JUNIOR SOFTWARE ENGINEER

Karlsruhe, Germany
07/2017 - 05/2019

- Developed C++ features for company software, including an export function that generated a template graph of robot instructions in a customer-ready Word document
- Enhanced interface functionality and user-friendliness by refining existing features and implementing effective workarounds for critical legacy code
- Integrated a camera sensor for real-time image feed from a KUKA robot into company software using KUKA robot language without any prior experience

Education

KTH Royal Institute of Technology/ Polytech Nice Sophia
MSc: INTELLIGENT AUTONOMOUS SYSTEMS (DOUBLE DEGREE)

Stockholm, Sweden/ Nice, France
2022 - 2024

- Grade: A, Thesis: Investigating Altitude-Adaptive Methods for Enhancing Small Object Detection on UAVs

Karlsruhe Institute Of Technology
BSc: ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Karlsruhe, Germany
2016 - 2021

- Thesis: Detection and Classification of Higher Cognitive Functions using an EEG-based Brain-Computer Interface

Skills & Interests

Skills	C++	Python	Git	Machine Learning	ROS	Computer Vision	Linux	PyTorch	TensorFlow	Control
Languages	Fluent in German, English, French
Course work	3D machine vision	Advanced Deep Learning	Applied Estimation	Reinforcement Learning	MPC
Interests	Intersection of Robotics and AI	Tennis	Effective Altruism	Learning new skills