Finn Köhler

Münster, Germany | finn.koehler@uni-muenster.de | linkedin.com/in/finn-köhler-a916983a6
github.com/xtazah | finn-koehler.com

EDUCATION

University of California, Berkeley
San Francisco, California, USA

Graduate Student - Computer Science (Study Abroad Semester)   *Aug. 2025 – Jan. 2026*

- Coursework: Algorithmic Human-Robot Interaction (CS 287H), Embedded Systems (CS C249A), Introduction to Robotics (EECS 206A), Natural Language Processing (EECS 283A), Evidence and Uncertainty (DATA 145).
- Focus Areas: Robotics, real-time control systems, and machine learning for handling real-world data.

University of Münster
Münster, Germany

Master of Science in Information Systems (Major in Data Science)   *Oct. 2025 – Sept. 2027*

- Focus/Interest Areas: Machine Learning for autonomous systems.

Bielefeld University of Applied Sciences (HSBI)
Bielefeld, Germany

Bachelor of Engineering in Digital Technologies (Dual-Study Program)   *Aug. 2020 – Feb. 2024*

- Academic Standing: 1,8 (German Scale; US GPA equivalent $\approx$ 3.5). Bachelor Thesis: 1,3 (German Scale; US GPA equivalent $\approx$ 3.8).
- Dual-Study: Completed a highly practical program integrating 3.5 years of industrial software development with theoretical depth.

EXPERIENCE

Software Engineer (Working Student)
Oct. 2025 – Sep. 2027

Beckhoff Automation GmbH & Co. KG (TwinCAT Analytics)   *Verl, Germany*

- Architecting high-performance, real-time analytics engines for industrial applications.
- Engineering a TwinCAT Watchlist, a monitoring interface for real-time PLCs, ensuring millisecond data synchronization.
- Optimizing C# codebases to ensure deterministic execution within low-latency automation environments.

Full-time Software Engineer
Feb. 2024 – Oct. 2025

Beckhoff Automation GmbH & Co. KG (TwinCAT Analytics)   *Verl, Germany*

- Developed and extended an automated visualization framework that auto-generates data dashboards based on TwinCAT Analytics configurations, reducing setup time for customers by 70%.
- Engineered customer-facing modules for the TwinCAT ecosystem, focusing on high-availability data processing.
- Received "Exemplary" performance evaluation (Arbeitszeugnis) for 5 years of consistent technical and social excellence.
- Sabbatical (Aug.–Dec. 2024): Conducted an independent cultural exchange in Spain, demonstrating adaptability and international communication skills.

Dual-Study Research & Software Engineer
Aug. 2020 – Feb. 2024

Beckhoff Automation GmbH & Co. KG (TwinCAT Analytics)   *Verl, Germany*

- Bachelor Thesis (German Grade: 1,3; US GPA equivalent $\approx$ 3.8): "Automated Integration of Analytics Dashboards into Existing Industrial Visualizations."
- Architected a synchronization framework to unify disparate operating concepts between legacy visualizations and the TwinCAT Analytics Dashboard.
- Developed and benchmarked a prototype implementation that demonstrated a 300% increase in deployment speed compared to manual integration methods.
- Designed and implemented the automated generation of a User Management configuration within TwinCAT HMI to facilitate secure access to serverside data in industrial scale systems.
- Programmed kernel-mode drivers and industrial IoT pipelines, managing 3,000+ hours of applied engineering.

Selected Projects

Dartz (Full-Stack Real-Time Platform) | *React, PostgreSQL, Firebase* 2024 – Present
- Architected a multiplayer scorekeeping platform utilizing Firebase for real-time state synchronization across remote clients.
- Implemented game logic for "501" rules, featuring live matches with remote and local players, 3D-Models and (soon) player performance analytics.
- **Live demo**

Robotics club & Automated Pathfinding 2018 – 2020
- Engineered an autonomous robot capable of real-time pathfinding and object targeting using remote control and onboard logic.
- Organized STEM hands-ons for interested students in local schools.

Technical Skills & Leadership

Languages: C# (Advanced), Python (PyTorch, Scikit-learn, pandas, ...), C/C++, TypeScript (Native, React), SQL, German (Native), English (TOEFL iBT : 117/120), Spanish (Basic)
Automation/Robotics: TwinCAT Analytics, TwinCAT PLC (IEC 61131-3), TwinCAT HMI, Kernel-level Dev, IoT Pipelines
Tools: Git, Docker, Firebase, Adobe Premiere Pro, After Effects
Leadership: Handball Team Captain; Elected Member of Computer Science Student Council