

Nils Kuhn

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EDUCATION

Stanford University, Stanford, CA, USA

M.S. in Electrical Engineering

Sep 2024 – Jun 2026

GPA: 4.096/4.000

Relevant coursework: Reinforcement Learning (CS 234), Machine Learning (CS 229), Deep Learning for Computer Vision (CS 231n), Deep Reinforcement Learning (CS 224r), Stochastic Calculus and Control (MS&E 322), Artificial Intelligence (CS 221)

Leibniz University Hannover, Hannover, Germany

B.S. in Mechatronics

Oct 2021 – Sep 2024

Grade: 1.2, graduated with distinction

Relevant coursework: Automatic Control, Mechatronic Systems, Electrical Drives, Signals and Systems, Digital Electronic Circuits

B.S. in Engineering and Business Administration

Oct 2022 – Aug 2024

Grade: 1.2, graduated with distinction

Focus: Finance and Power Engineering

PROFESSIONAL EXPERIENCE

Meta (contracted through Magnit Global)

July 2026 – Present

Research Scientist 2

- Working on **world models** and their application to robot control and planning.
- Building systems that learn from video to enable **zero-shot generalization**.

Interactive Perception and Robot Learning Lab, Stanford University

Sep 2025 – June 2026

Research Assistant, advised by Prof. Jeannette Bohg

- Researching ways to improve **Vision-Language-Action models** for dexterous manipulation tasks.
- Adapting foundation models and implementing **diffusion-based policies** and **residual policy learning** on a Franka Panda robot arm.

European Space Agency

Jun 2025 – Sep 2025

AI for Space Operations Intern

- Developed a **continual learning** framework for time-series data used in satellite telemetry.
- Improved anomaly detection accuracy by **14.3%** and reduced run-to-run variance by over **90%**.
- Reduced initial training data by **95%**, enabling early-stage anomaly prediction.

Institute of Quantum Optics, Leibniz University Hannover

Dec 2023 – Mar 2024

Research Assistant, advised by Prof. Christian Ospelkaus

- Designed **KiCad** PCB layouts for **trapped-ion quantum computing** experiments.
- Optimized layouts for low-noise and high-frequency signals.

PUBLICATIONS

- [1] Parés-Morlans, C., **Kuhn, N.**, Liu, I., Longhini, A., & Bohg, J. (2026). Demystifying When and Why VLAs Fail in Contact-Rich Tasks and How to Fix Them. *arXiv preprint arXiv:2608.01402*. [\[Paper\]](#)

- [2] **Kuhn, N., Gómez, B. S., Blasco, N. M., Caserman, P., & Antonello, F. (2026).** Validation-gated continual learning for anomaly detection in satellite telemetry. *Acta Astronautica*. [\[Paper\]](#)

SELECTED PROJECTS AND EXTRACURRICULAR ACTIVITIES

- Stochastic Calculus and Control**, Stanford University Sep 2025 – Dec 2025
- Implemented diffusion-based policies using **VP-SDE**, **VE-SDE**, and **critically damped Langevin dynamics** for the PushT manipulation benchmark.
 - Built and benchmarked **Euler**, **Euler-Maruyama**, and **Heun solvers**.
 - Achieved a **0.78–0.80** success rate with VP-SDE and the Euler-Maruyama solver. [\[Link\]](#)
- Deep Learning for Computer Vision**, Stanford University Mar 2025 – Jun 2025
- Implemented deep learning models for fine-grained urban geolocation in San Francisco, using **StreetCLIP** and a custom **Vision Transformer**.
 - Achieved below **600 m** mean localization error and **66.8%** top-1 accuracy with a grid-based classifier over a 31×31 spatial mesh. [\[Link\]](#)
- Google Developer Student Club**, Stanford University Mar 2025 – Jun 2025
- Worked on neural decoding of **EEG** and **audio** data by building a phoneme-level model for speech recovery.
 - Built an API pipeline that streams EEG data from the Neurosity Crown headset to showcase potential applications of **real-time user intent recognition**.
- Formula Student**, Leibniz University Hannover Mar 2022 – Dec 2023
- Collaborated with a **team of 70 students** to design and build a **Formula Student race car**.
 - Constructed an electrical safety system by designing and assembling PCBs using **Altium**.
 - Competed in **Formula Student Spain 2023** among 1,000 international participants. [\[Link\]](#)

HONORS AND AWARDS

- Jürgen Ulderup Award** 2025
- Awarded to 6 outstanding bachelor's students in the Faculty of Mechanical Engineering of Leibniz University Hannover. (€1,500)
- Wilhelm Launhardt Award** 2024
- Awarded to 8 outstanding bachelor's students in the Faculty of Economics and Management of Leibniz University Hannover.
- Tuition Fellowship** from Stanford University 2024 – Present
- Scholarship** from the German Academic Exchange Service (DAAD) 2024 – Present
- Top 10% of students in programming** with Python and C 2024
- Dean's List**, Faculty of Economics and Management 2023, 2024
- Semiannual award for the best 60 students in the faculty
- Dean's List**, Faculty of Electrical Engineering and Computer Science 2023, 2024
- Annual award for the top 5% of the study program cohort
- Scholarship** from the Friedrich-Ebert-Stiftung 2022 – Present

SKILLS AND PROGRAMMING LANGUAGES

Languages: Full professional proficiency in English and German
Programming Languages: Python, C, C++, HTML, SCSS
Libraries: PyTorch, JAX, ROS, NumPy, Pandas, Jupyter, CVXPY
Tools: Git, AWS, KiCad, Altium, Autodesk Inventor, LaTeX