Derck Prinzhorn

Curriculum Vitae

Profile

MSc AI student with experience in Machine Learning architecture, development and research. Strong background in AI with a focus on research. Seeking opportunities to further research and practical applications in AI.

Education

2023 – 2026	**Master of Science Artificial Intelligence**, *University of Amsterdam*.
2020 – 2023	**Bachelor of Science Artificial Intelligence**, *University of Amsterdam*, Cum Laude, Grade: 8.2/10.
	Bachelor thesis: Benchmarking conformal prediction methods for time series regression. Grade: 8.5/10. Won the AmsterdamAI Thesis Award 2023.
2014 – 2020	**VWO Gymnasium, N&G en N&T and economics**, *Het Amsterdams Lyceum*.

Relevant work experience

Mar. 2024 – present	**Research Intern**, *Deltares*, Utrecht. Working on conformal prediction for discharge forecasting.
Apr. 2023 – present	**Machine Learning Architect**, *Politie Nederland*, Amsterdam. ○ Designing centralized MLOps architecture, consisting of MLOps processes, tooling and workflows, including CI/CD pipelines, and AI governance frameworks. ○ Introducing AI Safety initiatives through risk modelling and safety engineering.
Jan. – May. 2024	**Research Intern**, *University of Amsterdam*, Amsterdam. ○ Researched uncertainty quantification methods. Specifically, I introduced a novel perspective on conformal prediction for time series. ○ Submitted findings in COPA, a workshop with a focus on conformal prediction.
2022 – 2024	**Machine Learning Engineer**, *Dutch Nao Team*, Amsterdam. ○ Developed AI models for pose classification, object detection, sound detection and reinforcement learning. ○ Managed team activities, project backlogs and led scrum teams, resulting in 5x more members and a novel robot framework built from scratch in Rust.
2021 – 2023	**Software Engineer | Team Lead**, *LeerLevels*, Amsterdam. ○ Developed grading algorithms, search engines, and recommendation systems. ○ Supervised an app development project, resulting in an MVP mobile app.

Teaching

Spring 2023	**Information Visualization**. Teaching assistant for Bachelor's course at UvA
Spring 2023	**Cognitive Modelling (Reinforcement Learning)**. Teaching assistant for Bachelor's course at UvA

| Winter 2022 | **Datastructures and Algorithms**. |
| Teaching assistant for Bachelor's course at UvA |

| Winter 2022 | **Machine Learning and Decision making**. |
| Teaching assistant for Bachelor's course at UvA |

| Fall 2022 | **Introduction to Machine Learning**. |
| Teaching assistant for Bachelor's course at UvA |

| Fall 2022 | **Bayesian Statistics for Machine Learning**. |
| Teaching assistant for Bachelor's course at UvA |

Honors and awards

November 2023 **Amsterdam AI Thesis Award Winner**, *AmsterdamAI*.
- Awarded for outstanding bachelor thesis on conformal prediction for time series.

Projects

November 2023 **AI Safety Hackathon, 2nd place**, *Entrepreneur First & Apart Research & TU Delft*.
- Developed a novel method to inspect, reverse engineering and steer Large Language Models.
- Our team achieved second place out of 8 teams.

June 2022 **Robotics Hackathon ERF2022, 2nd place**, *European Robotics Forum*.
- Created software for Lely Juno robot, achieving second place among robotics master students.

January 2022 **Machine Learning Project**, *KR&A*.
- Conducted ML project to identify drivers of real estate valuation growth for KR&A.

Volunteering and organising

Core Team **Google Developer Student Clubs | UvA**, *December 2023 – present*, Amsterdam.

Core Team **AI Safety Amsterdam (AISA)**, *September 2023 – present*, Amsterdam.

Vice Chair **Foundation Dutch Nao Team**, *July 2023 – March 2024*, Amsterdam.
- Refined board processes, managed recruitment, and developed partnerships.

Member **Programme Committee AI UvA**, *September 2021 – April 2023*, Amsterdam.
- Contributed to AI program discussions, course evaluations, and resolving student-teacher issues.

Board **Stichting Hoormij**, *June 2021 – May 2023*, Houten.
- Advisor to the board of Hoormij.NVVS.
- Focused on tinnitus and innovation strategies within the organization.

Secretary **Tinnitus Jong Netwerk, Stichting Hoormij**, *January 2021 – April 2022*, Houten.
- Established a committee for young people with tinnitus.

Mentor **Stichting Studiezalen**, *February 2020 – October 2021*, Amsterdam.
- Mentored high school students in coaching and homework tutoring.

Mentor **School's cool**, *October 2020 – August 2021*, Amsterdam.
- Mentored primary school students during their transition to high school, while managing language and arithmetic backlogs and home situation.

Technology

Programming Languages

Advanced Python

Basic Rust, C, HTML, CSS, JavaScript

Data Science and Machine Learning

Scientific Libraries	Numpy, Astropy, Pandas, Matplotlib
ML Frameworks	Scikit-learn, PyTorch, TensorFlow, OpenCV, Jax

Database Technologies

SQL Databases	PostgreSQL, MySQL, SQLite
NoSQL Databases	JSON, Firebase (Cloud Firestore)
Graph Databases	Neo4j

Development and API Tools

API Development	Flask, Postman
Development Tools	Jupyter, GitHub, Git, Linux shell, Docker, Kubernetes

MLOps

Experiment Tracking	MLflow, Weights & Biases
Orchestration	Kubeflow, Airflow, Argo, Metaflow

Languages

Dutch	**Native**
English	**Professional**