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 gain research experience. Particularly interested in AI Safety and Medical AI.

Education

2023 – 2026   **Master of Science Artificial Intelligence**, *University of Amsterdam*
Subjects: Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, Natural Language Processing, Information Retrieval, Interpretability & Explainability.

2020 – 2023   **Bachelor of Science Artificial Intelligence**, *University of Amsterdam*, Cum Laude, Grade: 8.2/10
Subjects: Programming, Linear Algebra, Calculus, Bayesian Statistics, Machine Learning, Reinforcement Learning, Computer Vision, Natural Language Processing, Information Retrieval.

2014 – 2020   **VWO Gymnasium, N&G en N&T and economics**, *Het Amsterdams Lyceum*

Relevant work experience

Jun. 2024 - present   **Research Intern**, *Supervised Program for Alignment Research*
- Working on AI Control research.
- Supervised by experienced alignment researcher from Redwood Research

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.

Mar. 2024 – Jun. 2024   **Research Intern**, *Deltares*, Utrecht
- Researched conformal prediction methods for discharge forecasting.
- This involved implementing appropriate methods, evaluating their performance and explaining them to meteorologists.

Jan. – May. 2024   **Research Intern**, *University of Amsterdam*, Amsterdam
- Researched uncertainty quantification methods. Specifically, we introduced a novel perspective on conformal prediction for time series.
- Submitted findings to 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.

Academic work

2024	**Workhop Paper**
	Conformal time series decomposition with component-wise exchangeability. Accepted to the 13th Symposium on Conformal and Probabilistic Prediction with Applications (COPA 2024) and published in the Proceedings of Machine Learning Research (PMLR 2024) .
2024	**Journal Paper**
	Reproducibility study of FairAC. Published in the Transactions on Machine Learning Research (TMLR 2024).
2023	**Bachelor Thesis (**$8.5/10$**)**
	Benchmarking conformal prediction methods for time series regression.

Honors and awards

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

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

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	**AI Safety Amsterdam (AISA)**, *September 2023 – present*, Amsterdam
Core Team	**Google Developer Student Clubs — UvA**, *December 2023 – June 2024*, 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, Pandas, Scipy, Matplotlib, Astropy
ML Frameworks	Scikit-learn, PyTorch, TensorFlow, OpenCV, Jax, Statsforecast,

Databases

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

Development and API Tools

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

MLOps

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

Languages

Dutch	Native
English	Professional