# POL TIMMER

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As a recent master's graduate with top honors in Data Science and Artificial Intelligence, I am eager to apply my expertise in research, data science, and machine learning to the industry. My drive for excellence is supported by a solid foundation in software engineering and hands-on experience with Python and PyTorch, enabling me to deliver practical and innovative AI solutions to real-world problems.

## Education

**MSc Data Science & Artificial Intelligence** (Cum Laude, *GPA 9/10*) 2024
*Eindhoven University of Technology | Eindhoven*

- Graduated top of my class. Thesis awarded 10/10, a first of 51 students.

**BSc Software Science**
*Eindhoven University of Technology | Eindhoven*

## Work Experience

**Machine Learning Research Graduate (Master's Thesis)** Feb 2023 - Jun 2024
*Eindhoven University of Technology | Eindhoven*

- Introduced a novel model for simulating mesoscopic scale crystal growth based on an autoregressive conditional variational autoencoder. Sped up the simulation of snow crystal growth by 11x.
- Proposed novel solutions for simulating complex dynamical systems applicable beyond crystal growth.
- Made extensive use of PyTorch, Weights & Biases, Lightning, and CUDA to implement advanced novel solutions and uphold a modular and explainable project.
- Received a perfect thesis score (10/10), the first in my supervisor's experience with 51 students.
- Published findings at D3S3, a workshop of NeurIPS. (https://arxiv.org/pdf/2405.16608)

**Data Scientist** Oct 2021 - Oct 2023
*Prodrive Technologies | Eindhoven*

- Implemented an style transfer model for translating CAD renders to photorealistic samples for training an ML component fault detection model. This reduced the amount of real data required to just one image.
- Worked on Prodrive's machine learning platform for managing data and rapidly deploying models.

**Software Engineer** Apr 2019 – Jan 2021
*Dutch Coding Company | Eindhoven*

**Machine Learning Research Intern** Jun 2021 – Aug 2021
*Shell | Amsterdam*

- Developed regulation state forecasting models for energy trading in the energy balancing market.
- Engineered data loading and preprocessing pipelines.

## Published Works

Towards Efficient Probabilistic Modeling of Crystallization at Mesoscopic Scale (paper)

## Core Skills

Python, PyTorch, SciPy, NumPy, Pandas, Deep Learning, Computer Vision, Generative Modeling, Software Engineering, CUDA, Parallel programming, Statistics, Mathematics, Physics simulations

## Soft Skills

Quick learner and eager to learn, Results-driven, Ambitious, Creative problem solver, Full English fluency