DANILO **DE GOEDE**
PhD Student in Foundation Models

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I am a PhD student in artificial intelligence at the University of Amsterdam supervised by Cees Snoek and Yuki Asano. My research focuses on improving the adaptation efficiency in foundation models. More broadly, I am interested in understanding and improving the underlying learning mechanics of representation learning methods.

Education

2023 - exp. 2028 **PhD, Artificial Intelligence**, QUVA Lab, University of Amsterdam
- Working on improving the adaptation efficiency & learning dynamics in foundation models.
- Supervisors: Prof. Dr. Cees Snoek and Prof. Dr. Yuki Asano.

2021 - 2023 **Master of Science, Artificial Intelligence**, University of Amsterdam
- Thesis on the Generalizability of Causal Representations under supervision of Dr. Phillip Lippe and Dr. Sara Magliacane (Thesis).
- Electives: Computer Vision 2, Deep Learning 2, Interpretability & Explainability in AI, Reinforcement Learning, Machine Learning 2.
- GPA: $8.9/10$, *cum laude*.

2018 - 2021 **Bachelor of Science, Computer Science**, University of Amsterdam
- Thesis on Enhancing a Hive Playing Engine with Reinforcement Learning under supervision of Prof. Dr. Ir. Ana Lucia Varbanescu and Duncan Kampert MSc (Thesis, Publication).
- GPA: $9.2/10$, *cum laude* (first in class of ~100).

Experience

November 2023 – December 2024 **Head Teaching Assistant & Tutorial Lecturer, University of Amsterdam,**
- **Head Teaching Assistant**, Foundation Models & Deep Learning 1 (2024). Designed and orchestrated the course practicals and coordinated a teaching staff of 10+ TAs for a cohort of 240 students.
- **Tutorial Lecturer**, Deep Learning 1 (2023). Delivered a lecture series on implementing deep learning methodologies in PyTorch for a cohort of 240 students (Course Material).

Teaching | Curriculum Design | PyTorch | Leadership

September 2019 – August 2023 **Teaching Assistant, University of Amsterdam,**
- Supported **19 course editions** across MSc AI and BSc CS programs, covering topics from Machine Learning to Data Structures & Algorithms.
- Created and taught a technical notebook for the *Causality and Causal Representation* module of the Deep Learning 2 course (Notebook Link).
- Developed a custom assignment for the "Programming Languages" course and implemented automated test suites in CodeGrade to streamline assessment of 120 students (Link).

Python | SQL | C | C# | Unity | Automated Testing

October 2022 – June 2023 **Research Intern, University of Amsterdam, Qualcomm,**
- Research internship for my Master's thesis at the Qualcomm-UvA (QUVA) lab, under supervision of Dr. Sara Magliacane and Phillip Lippe.

Research | PyTorch Lightning | PyTorch

Publications

2026 Semantically Steerable Image Tokenization
D de Goede, MM Derakhshani, YM Asano, CGM Snoek
arXiv preprint arXiv:2610.15515. (Project Page)

2022 C-3PO: Towards Rotation Equivariant Feature Detection and Description
P Bagad*, F Eijkelboom*, M Fokkema*, D de Goede*, P Hilders*, M Kofinas
European Conference on Computer Vision (ECCV) Workshops. (Tel Aviv, Israel)

2022 [Re] Reproducibility Study of "Counterfactual Generative Networks"
P Bagad*, J Maas*, P Hilders*, D de Goede*
ReScience C, 8(2), #5. (Invited Talk at NeurIPS 2022, New Orleans, USA)
⋆ **Best Paper Award** (MLRC 2021)

2022 The Cost of Reinforcement Learning for Game Engines: The AZ-Hive Case-study
D de Goede, D Kampert, AL Varbanescu
ACM/SPEC International Conference on Performance Engineering (ICPE), Research Track. (Beijing, China)

Projects

Quantifying CLIP's Ability to Perform Cross-Modal Grounding using Attention-Model Explainability 2022

github.com/bpiyush/CLIP-grounding Poster Demo
Quantified CLIP's ability to perform panoptic narrative grounding using the Attention-model Explainability method (Chefer et al., 2021). Our demo was added to the official Transformer-MM-Explainability repository (850+ GitHub Stars)
PyTorch

TicketVise 2020

github.com/TicketVise/ticketvise Official Website
Laid the foundations for TicketVise, a ticketing system seamlessly integrated into major LMS platforms (Canvas, Blackboard, Moodle). Built the application from scratch in four weeks within a 12-person agile team. The platform has been adopted by 100+ course editions at the University of Amsterdam, with secured funding for ongoing maintenance and deployment.
Django Docker GitLab CI/CD Unit Testing Python Vue HTML CSS

Skills

Programming Languages	Python, C/C++, SQL, Bash, Java, Go, JavaScript, Haskell, Prolog, Erlang, PHP
AI & Research	PyTorch, PyTorch Lightning, TensorFlow, LaTeX, Scientific Writing
Infrastructure & Tools	Git, Docker, Linux, Parallel Programming, Web Development

Honors & Awards

Best Paper Award at the ML Reproducibility Challenge 2021 Issued by Papers with Code

Reviewer's Comments News Article
Out of the 100+ submitted papers, our paper on the Reproducibility Study of "Counterfactual Generative Networks" has been granted the Best Paper Award of MLRC 2021, due to its "very high quality of all-round reproducibility effort and presentation".

Best Poster Award at the XAI Course at the University of Amsterdam Issued by Dr. J. Zuidema

Poster
Presentation on poster on Quantifying CLIP's Ability to Perform Cross-Modal Grounding using Attention-Model Explainability.

Best Presentation Award at CompSys-2021 Issued by Prof. Dr. H.E. Bal and Dr. Ir. A. Trivedi

Conference Website
Presentation on paper on The Cost of AlphaZero: the Hive Case in collaboration with dr. ir. A.L. Varbanescu and D. Kampert MSc.