Rob Romijnders

PhD student in Machine Learning

About me

PhD student in Federated Machine Learning, with many open-source contributions. Projects centered around large-scale, robust and private machine learning.

Research areas

- Computer vision
- Domain adaptation
- Robustness and calibration
- Learning from video
- Training at scale
- Federated Learning:
- Decentralized inference
- Differential privacy

Co-author for the Wikipedia pages on Differential Privacy and Bayes Error Rate

800+ citations, h-index 8
Overview of publications at robromijnders.nl/

Community engagement

Previous organizer of Eindhoven Data Science.

Talks at PyData Amsterdam:

- Machine Translation (2017)
  youtube.com/watch?v=HVdPWoZ_swY
- Bayesian ML (2018)
  youtube.com/watch?v=Z7VN7oRA6TY
- ML & Privacy (2024)
  youtube.com/watch?v=2-EjNJnV4Ec

Experience

2021–2026 — **PhD in Federated Machine Learning**
University of Amsterdam · Amsterdam, NL
Advised by Max Welling, Christos Louizos, and Yuki M. Asano.

- My main topic is differential privacy and federated learning;
- Supervisor to five thesis students, of which three graduated cum laude;
- Research visit to professor Antti Honkela's lab in Helsinki.

2024 — **PhD Internship programs**
Extra-curricular · London, UK

- G-Research, London, 10 weeks, on financial time series modeling;
- Brave Software, London/remote, 12 weeks, on differential privacy in LLMs.

2019–2021 — **AI Resident researcher**
Google Research (Deepmind) · Zurich, CH
I dealt with 300+ terabytes of video data on distributed file systems, had more than 180 accepted pull requests, and created and shared 60+ internal documents. This 20-month program resulted in five publications.

2016–2019 — **Machine Learning Scientist**
Frosha · Amsterdam, NL
I was the main machine learning scientist in this startup, training NLP machine learning algorithms for classification and parsing of unstructured text.

Extra curricular

Academic Reviewing
Reviewer at CVPR/ICLR/ICML/NeurIPS
Journal reviewer at TMLR
Outstanding reviewer award ICCV 2021

Summer schools
GPSS summer school, UK, 2018
DLRL summer school, Canada, 2023
FoMo summer school, 2024/2025

Programming

- **Python**
- **Bash, unix**
- **C++**
- **Slurm, cloud**
- **Javascript**

Education

2015–2018 — **MSc Electrical Engineering**
Eindhoven University of Technology · Eindhoven, NL
Graduated *cum laude*, top 10% of my class. Courses in signal processing, stochastic processes, dynamical systems and non-linear optimization.

2016 — **Minor Data Mining**
National University of Singapore · Singapore, SG
Courses: data mining, reinforcement learning, non-linear optimization.

2014–2015 — **Minor Engineering**
Southern Federal University · Rostov-on-Don, RU
Courses: stochastic processes, numerical methods, software verification.

2011–2014 — **BSc Clinical Technology**
Twente University · Enschede, NL
Graduated *cum laude*, top 10% of my class; volunteer at AIESEC Twente.

Academic publications

Decentralized inference and Differential Privacy

2025 **NoEsis: A Modular LLM with Differentially Private Knowledge Transfer**
R. Romijnders, S. Laskaridis, A. Shahin-Shamsabadi, H. Haddadi · ICLR 2025 workshop
Internship project at the privacy-oriented browser, Brave.

2024 **DNA: Differentially private Neural Augmentation for contact tracing**
R. Romijnders, C. Louizos, Y.M. Asano, M. Welling · ICLR 2024 Private ML workshop
Code available at github.com/RobRomijnders/dna; Awarded spotlight talk at the workshop.

2024 **Protect Your Score: Contact Tracing with Differential Privacy Guarantees**
R. Romijnders, C. Louizos, Y.M. Asano, M. Welling · AAAI 2024
Code available; Awarded 15-minute oral talk in the main track, for top 10% of papers.

2023 **No time to waste: practical statistical contact tracing with few low-bit messages**
R. Romijnders, Y.M. Asano, C. Louizos, M. Welling · AISTATS 2023
Code available at github.com/QUVA-Lab/nttw

Experience with large-scale models and training on video data

2022 **Beyond transfer learning: Co-finetuning for action localisation**
A. Arnab, X. Xiong, A. Gritsenko, R. Romijnders, J. Djolonga, M. Dehghani, C. Sun, M. Lucic, C. Schmid · arXiv preprint 2022

2021 **Representation learning from videos in-the-wild: An object-centric approach**
R. Romijnders, A. Mahendran, M. Tschannen, J. Djolonga, M. Ritter, N. Houlsby, M. Lucic · IEEE WACV 2021

2021 **SI-Score: An image dataset for fine-grained analysis of robustness to object location, rotation and size**
J. Yung, R. Romijnders, A. Kolesnikov, L. Beyer, J. Djolonga, N. Houlsby, S. Gelly, M. Lucic, X. Zhai · RobustML workshop ICLR 2021

Robustness, calibration, and out of distribution generalization

2023 **The effect of covariate shift and network training on Out-of-Distribution Detection**
S. Mariani, S. Klomp, R. Romijnders, P. de With · VISAPP 2023

2021 **Impact of aliasing on generalization in deep convolutional networks**
C. Vasconcelos, H. Larochelle, V. Dumoulin, R. Romijnders, N. Le Roux, R. Goroshin · ICCV 2021

2021 **Revisiting the Calibration of Modern Neural Networks**
M. Minderer, J. Djolonga, R. Romijnders, F. Hubis, X. Zhai, N. Houlsby, D. Tran, M. Lucic · NeurIPS 2021

2021 **On Robustness and Transferability of Convolutional Neural Networks**
J. Djolonga, J. Yung, M. Tschannen, R. Romijnders, L. Beyer, A. Kolesnikov, J. Puigcerver, M. Minderer, A. D'Amour, D. Moldovan, S. Gelly, N. Houlsby, X. Zhai, M. Lucic · CVPR 2021

2019 **Data Selection for training Semantic Segmentation CNNs with cross-dataset weak supervision**
P. Meletis, R. Romijnders, G. Dubbelman · IEEE ITSC 2019

2019 **Domain Agnostic Normalization for Unsupervised Adversarial Domain Adaptation**
R. Romijnders, P. Meletis, G. Dubbelman · IEEE WACV 2019
Code available at github.com/RobRomijnders/dan

Deep learning for sports analytics

2016 **Applying Deep Learning to Basketball Trajectories**
R. Shah, R. Romijnders · Sports Analytics Workshop, KDD 2016