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

References

For references, please get in touch with my PhD advisors: yuki.m.asano@gmail.com m.welling@uva.nl

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 Al 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

Javascript

Python Bash, unix C++ Slurm, cloud

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.
- 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.
- 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

- 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 \cdot RobustML workshop ICLR 2021
- 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

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