MIKKO A. HEIKKILÄ

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EDUCATION

University of Helsinki *2017-21 (expected)*
PhD Statistics
Privacy-preserving machine learning

University of Helsinki *2016*
MSc Computational statistics
Minor in Mathematics & Computer science

University of Helsinki *2015*
BSc Statistics
Minor in Mathematics & Computer science

University of Helsinki *2013*
MA Folklore studies
Minor in Sociology & Finnish literature studies

RESEARCH EXPERIENCE

University of Helsinki 2017 - Present
Doctoral candidate *Helsinki, Finland*

· I focus on privacy-preserving (differentially private) machine learning with the general aim of combining new theoretical insights with practical implementations.

University of Helsinki June 2016-2017
Research assistant *Helsinki, Finland*

· Working on probabilistic graphical models and on differential privacy.

Tutkimustoimisto Kide Oy January-December 2015
Data analyst *Helsinki, Finland*

· Doing statistical analysis and visualisation.

IFO Institute February-March 2014
Undergraduate intern *Munich, Germany*

· Assisting in statistical research by running statistical analysis and doing visualisations.

PUBLICATIONS

M. A. Heikkilä, A. Koskela, K. Shimizu, S. Kaski, & A. Honkela: *Differentially private cross-silo federated learning.* ArXiv:2007.05553, 2020.

M. A. Heikkilä, J. Jälkö, O. Dikmen & A. Honkela: *Differentially Private Markov Chain Monte Carlo.* In NeurIPS 2019.

T. Niinimäki, **M. A. Heikkilä**, A. Honkela & S. Kaski: *Representation Transfer for Differentially Private Drug Sensitivity Prediction.* In ISMB 2019.

M. A. Heikkilä, E. Lagerspetz, S. Kaski, K. Shimizu, S. Tarkoma & A. Honkela: *Differentially Private Bayesian Learning on Distributed Data.* In NIPS 2017.

GRANTS

Nokia Scholarship 2017, 2020

TEACHING EXPERIENCE

Trustworthy Machine Learning Autumn 2020
Teaching Assistant (University of Helsinki)

Bachelor student seminar Spring 2020
Supervisor (seminar in CS department, University of Helsinki)

Computational Statistics II Autumn 2017 & 2018
Main lecturer (project course in University of Helsinki)

SERVICE

Peer-reviewer
NeurIPS 2018-2019, ICML 2019-2020, AISTATS 2019-2020, UAI 2019

TECHNICAL STRENGTHS

Computer Languages Python, R, Matlab, Java

CONFERENCE & SEMINAR PRESENTATIONS, NATIONAL

Differentially Private Bayesian Learning on Distributed Data
M. Heikkilä, E. Lagerspetz, S. Kaski, K. Shimizu, S. Tarkoma & A. Honkela
Oral presentation, Statistics seminar, University of Helsinki, 23.1.2018, Helsinki, Finland

Differentially Private Bayesian Learning on Distributed Data
M. Heikkilä, E. Lagerspetz, S. Kaski, K. Shimizu, S. Tarkoma & A. Honkela
Oral presentation, European Meeting of Statisticians, 24.-28.7.2017, Helsinki, Finland

POSTER PRESENTATIONS, INTERNATIONAL

Differentially Private Markov Chain Monte Carlo.
M. Heikkilä, J. Jälkö, O. Dikmen & A. Honkela
NeurIPS 2019, 6.-12.12. Vancouver, Canada.

Representation Transfer for Differentially Private Drug Sensitivity Prediction.
T. Niinimäki, **M. Heikkilä**, A. Honkela & S. Kaski
Amazon Research Days, 5.10.2018, Berlin, Germany.

Differentially Private Bayesian Learning on Distributed Data
M. Heikkilä, E. Lagerspetz, S. Kaski, K. Shimizu, S. Tarkoma & A. Honkela
NeurIPS 2017, 4.-9.12., Long Beach, CA, USA.

POSTER PRESENTATIONS, NATIONAL

Differentially Private Cross-silo Federated Learning.
M. Heikkilä, A. Koskela, K. Shimizu, S. Kaski & A. Honkela
AI Day 2020, Finnish Centre for AI (FCAI), virtual conference.

Representation Transfer for Differentially Private Drug Sensitivity Prediction.
T. Niinimäki, **M. Heikkilä**, A. Honkela & S. Kaski
AI Day, Finnish Centre for AI (FCAI), 12.12.2018, Espoo, Finland.

WORKSHOP PRESENTATIONS

Differentially Private Cross-silo Federated Learning.
M. Heikkilä, A. Koskela, K. Shimizu, S. Kaski & A. Honkela
Poster in PriML/PPML, NeurIPS 2020, virtual conference.

Differentially Private Markov Chain Monte Carlo.
M. Heikkilä, J. Jälkö, O. Dikmen & A. Honkela
Poster in Theory and Practice of Differential Privacy (TPDP), 11.11.2019 London, UK.

Representation Transfer for Differentially Private Drug Sensitivity Prediction.
T. Niinimäki, **M. Heikkilä**, A. Honkela & S. Kaski
Poster in Privacy in Machine Learning and Artificial Inteligence (PiMLAI), ICML 2018, 10.-15.7., Stockholm, Sweden

Differentially Private Bayesian Learning on Distributed Data
M. Heikkilä, E. Lagerspetz, S. Kaski, K. Shimizu, S. Tarkoma & A. Honkela
Poster in Private and Secure Machine Learning, ICML 2017, 6.-11.8., Sydney, Australia