# MIKKO A. HEIKKILÄ

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## EDUCATION

**University of Helsinki** *2023*
Doctor of Philosophy
PhD thesis title: Differentially private and distributed Bayesian 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

**Telefónica Research** 2023 -
*Associate researcher* *Barcelona, Spain*

· Trustworthy machine learning (with differential privacy, algorithmic fairness, adversarial robustness) and learning from distributed data (federated learning).

**University of Helsinki** 2017 - 2023
*Doctoral candidate* *Helsinki, Finland*

· Privacy-preserving (differentially private) machine learning, distributed learning (federated learning), and Bayesian learning.

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

· Probabilistic graphical models and differential privacy.

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

· 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**, M. Ashman, S. Swaroop, R. E. Turner & A. Honkela: *Differentially private partitioned variational inference.* In TMLR, 2023.

A. Koskela, **M. A. Heikkilä**, & A. Honkela: *Numerical accounting in the shuffle model of differential privacy.* In TMLR (Featured Certification), 2023.

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

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

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

| | |
|---|---|
| **Statistics for Data Science** | Autumn 2022<br>Teaching Assistant (University of Helsinki) |
| **Computational Statistics** | Autumn 2021 & Spring 2022<br>Teaching Assistant (University of Helsinki) |
| **Computational Statistics II** | Autumn 2017 & 2018<br>Main lecturer (project course in University of Helsinki) |
| **Bachelor student seminar** | Spring 2020<br>Supervisor (seminar in CS department, University of Helsinki) |
| **Trustworthy Machine Learning** | Autumn 2020<br>Teaching Assistant (University of Helsinki) |

## SERVICE

**Peer-reviewer**

NeurIPS, ICML, ICLR (Highlighted reviewer), AISTATS, UAI, TMLR, JMLR

## TECHNICAL STRENGTHS

**Computer Languages** Python, R, Matlab, Java

## LANGUAGES

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|---|---|
| **Finnish** | Native |
| **English** | Near-native |
| **Spanish** | Good |
| **Swedish** | Basic |