• PERSONAL INFORMATION

Family name, First name: Wahlström, Niklas
Date of birth: May 14, 1984
Nationality: Swedish
URL for website: https://nikwa.github.io/
Google Scholar: https://scholar.google.se/citations?user=L8DhrjsAAAAJ

• ACADEMIC DEGREES

2023 **Docent in Machine Learning**
Department of Information Technology, Uppsala University, Sweden

2015 **Doctor of Philosophy in Automatic Control**
Department of Electrical Engineering, Linköping University, Sweden
Supervisor: Prof. Fredrik Gustafsson

2013 **Licentiate of Engineering in Automatic Control**
Department of Electrical Engineering, Linköping University, Sweden
Supervisor: Prof. Fredrik Gustafsson

2010 **Master of Science in Applied Physics and Electrical Engineering - International**, with distinction, Linköping University, Sweden

• CURRENT POSITION

2024 – **Associate Professor**
Department of Information Technology, Uppsala University, Sweden

• PREVIOUS POSITIONS

2019 - 2024 **Assistant Professor**
Department of Information Technology, Uppsala University, Sweden

2016–2019 **Postdoctoral Researcher**
Department of Information Technology, Uppsala University, Sweden

2010–2015 **PhD student**
Department of Electrical Engineering, Linköping University, Sweden

2006-2009 **Teaching Assistant**
Department of Mathematics, Linköping University, Sweden

• AWARDED GRANTS

2025-2026 **Wallenberg AI, Autonomous Systems and Software Program (WASP) and Wallenberg Initiative Materials Science for Sustainability (WISE)** WASP and WISE Pilot projects: *Computer design of new class of green magnets for energy applications and next-generation computing.* Total amount: 1 000 000 SEK, Principal investigator (for WASP) together with Vladislav Borisov (for WISE).

2024 **Wallenberg AI, Autonomous Systems and Software Program (WASP) and Wallenberg Initiative Materials Science for Sustainability (WISE)** WASP and WISE joint call for pre-projects: *Vision-based AI for exploration of new solar cell materials.* Total amount: 830 000 SEK, Principal investigator (for WASP) together with Jonathan Staaf Scragg (for WISE).

2022–2026 **Swedish Research Council (VR)** Starting grant within natural and engineering sciences. Project: *Physics-informed machine learning.* Total amount: 4 000 000 SEK, Principal investigator, Individual grant.

2020–2025 **Wallenberg AI, Autonomous Systems and Software Program (WASP)** Industrial PhD project: *Modular neural networks and meta learning in 6G networks.* Total amount: 3 300 000 SEK, Principal investigator, Joint application with Jalil Taghia (Ericsson AB).

- **PUBLICATIONS (summary)** ▷ full list of publications

1 book, 10 peer-reviewed journal papers, 22 peer-reviewed conference papers, 2 patents, h-index 19, citations: 2108.

- **TEACHING EXPERIENCE** ▷ full list of teaching experience

34(10) course instances in 17(4) different courses (in parenthesis as course responsible). Developed 4 courses and co-authored one course book.

- **REVIEWING ACTIVITIES**

2024 **Licentiate thesis opponent**, Chuan Huang, Department of Electrical Engineering, Linköping University, Sweden.

2024 **Evaluation of Personal Research Grant** The Israel Science Foundation

2023 **PhD thesis committee member**, Vaibhav Mishra, Department of Physics and Astronomy, Uppsala University.

2023 **PhD thesis committee member**, Phil Harrison, Department of Pharmaceutical Biosciences, Uppsala University.

2022 **PhD thesis opponent**, Krista Longi, Department of Computer Science, University of Helsinki, Finland.

2021 **PhD thesis pre-examiner**, Çağatay Yıldız, Department of Computer Science, Aalto University.

2021 **Examination committee, half-time seminar**, Phil Harrison, Department of Pharmaceutical Biosciences, Uppsala University.

2013– **Reviewer** Technometrics, Automatica, IEEE Transactions on Cognitive and Developmental Systems, ISIF Journal of Advances in Information Fusion, International Journal of Control, Digital Signal Processing,FUSION, IPS/NeurIPS 2015, 2017, ICML 2017, 2018, 2019, IROS 2020, MLSP 2020, L4DC 2021-2022,2024, SYSID 2024, UAI 2024.

- **BOARD PARTICIPATION**

2025 – **Director of Studies**, Division of Systems and Control, Uppsala University.

2023– 2024 **Board member**, Educational Board of Engineering (TUN), Uppsala University.

2020– 2024 **Board member**, Master's program in image analysis and machine learning, Uppsala University.

2021 **Board member**, Master's program in sociotechnical systems engineering, Uppsala University, co-opted member.

2020– **WASP faculty member** Swedish research initiative in artificial intelligence and autonomous systems.

- **VISITS ABROAD**

2014 spring **Research visit, Imperial College, London**
Supervisor: Dr. Marc Deisenroth, Department of Computing.

2007–2008 **Exchange student, ETH Zürich, Switzerland**
Studied the third year of my undergraduate studies abroad.

- **ENTREPRENEURIAL ACHIEVEMENTS**

2017 - 2021 **Co-founder and board member of Stylaero AB, Linköping**
Together with former colleagues at Linköping University, an entrepreneur and an investor founded the company Stylaero AB providing the next evolution of human-computer interaction. The core technology based on my research on 3D-positioning of magnetic objects and the corresponding patent [P1].

- **SUPERVISION**

Current PhD students (as main supervisor)

2025– Isabella Rudengren (previously at Uppsala University). PhD student.

2024– Jennifer Andersson (previously at Uppsala University). PhD student.

2020– Philipp Pilar (previously at Vienna University of Technology, Austria)

Graduated PhD students (as co-supervisor)

2019– Daniel Gedon, **On Deep Learning for Low-Dimensional Representations**

2017–2022 Carl Jidling, **Tailoring Gaussian processes and large-scale optimisation**

2016–2022 Carl Andersson, **Deep probabilistic models for sequential and hierarchical data**

Graduated licentiate students (as main supervisor)

2023 Philipp Pilar, **Integrating Prior Knowledge into Machine Learning Models with Applications in Physics**

Graduated licentiate students (as co-supervisor)

2016–2019 Carl Andersson, **Deep learning applied to system identification: A probabilistic perspective**

2017–2019 Carl Jidling, **Tailoring Gaussian processes for tomographic reconstruction**

MSc students

2012 – Supervisor or subject reviewer for 30+ MSc thesis projects.

- **CAREER BREAKS**

2022–2023 **Paternity Leave** (part-time (80%) September 2022–January 2023)

2021–2022 **Paternity Leave** (part-time (50%) November 2021–June 2022)

2019–2020 **Paternity Leave** (part-time (20%-30%) September 2019–June 2020)

2004 **Military Service** (10 months, full-time).