

# Daniel Gedon

Curriculum Vitae, January 2023

## Personal Data

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University Address: Uppsala University  
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Birth: 11.05.1994 in Feuchtwangen, Germany  
Citizenship: German

## Academic Positions

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### Ph.D. Student (08/2019 - Present, expected until mid-2024)

Uppsala University, Sweden  
Division of Systems and Control, Department of Information Technology  
Supervisors: Thomas Schön, Uppsala University (Sweden), main supervisor  
Niklas Wahlström, Uppsala University (Sweden)  
Antônio H. Ribeiro, Uppsala University (Sweden)  
Fully funded by Wallenberg AI, Autonomous Systems and Software Project (WASP)

## Academic Degrees

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### M.Sc. in System and Control (09/2017 - 07/2019)

TU Delft, the Netherlands.  
Thesis title: *Tensor Network Kalman Filter for Large-Scale MIMO Systems*  
Supervisor: Michel Verhaegen

### B.Eng. in Aerospace Engineering (09/2012 - 09/2015)

Baden-Württemberg Corporate State University, Germany.  
Cooperation with Airbus Defence & Space, Friedrichshafen (Germany).  
Thesis title: *Mission Based Cross Validation of the ESA Pointing Error Engineering Tool (PEET)*  
Supervisor: Thomas Ott

## Teaching Experience

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**Teaching Assistant** (10/2018 - Present)

### Uppsala University, Sweden

Ongoing: Statistical Machine Learning, 1RT700, MSc level, Fall 2022, [\[Syllabus\]](#)  
Advanced Probabilistic Machine Learning, 1RT705/1RT003, MSc level, Fall 2022, [\[Syllabus\]](#)  
Artificial Intelligence and Machine Learning, WASP Graduate School, PhD level, Spring 2022, [\[Syllabus\]](#)  
Statistical Machine Learning, 1RT700, MSc level, Spring 2022, [\[Syllabus\]](#)  
Statistical Machine Learning, 1RT700, MSc level, Fall 2021, [\[Syllabus\]](#)  
Automatic Control II, 1RT495, MSc level, Fall 2021, [\[Syllabus\]](#)  
Introduction to Computer Controlled Systems, 1RT485, BSc level, Spring 2021, [\[Syllabus\]](#)  
System Identification, 1RT885, MSc level, Spring 2020, [\[Syllabus\]](#)  
Introduction to Computer Controlled Systems, 1RT485, BSc level, Spring 2020, [\[Syllabus\]](#)

### TU Delft, The Netherlands

Filtering and Identification, SC42025, MSc level, Fall 2018, [\[Syllabus\]](#)

## Supervision

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Philipp von Bachmann, 2022, exchange MSc student project, "Regression from ECG data"

Theogene Habineza, 2022, MSc thesis project, "Deep Learning-Based Risk Prediction of Atrial Fibrillation Using the 12-lead ECG"

## Invited Talks

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SciLifeLab DDLS annual conference, Stockholm, November 2022, Panel discussion: **Training in Data Driven Life Science**

Joint Danish Society for Biopharmaceutical Statistics (DSBS) / Föreningen för Medicinsk Statistik (FMS) Meeting, Malmö, November 2022, **Deep Learning-based ECG Reading in the Emergency Department - Diagnosis of Myocardial Infarctions**

## Publications

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\* equal contribution.

### Pre-prints

Philipp Von Bachmann, **DG**, Fredrik K. Gustafsson, Antônio H. Ribeiro, Erik Lampa, Stefan Gustafsson, Johan Sundström, Thomas B. Schön, ECG-Based Electrolyte Prediction: Evaluating Regression and Probabilistic Methods, arXiv:2212.13890, 2022. [\[arXiv\]](#)

### Peer-reviewed publications

Stefan Gustafsson\*, **DG**\*, Erik Lampa, Antônio H. Ribeiro, Martin J. Holzmann, Thomas B. Schön, Johan Sundström, **Development and validation of deep learning ECG-**

based prediction of myocardial infarction in emergency department patients, *Scientific Reports* 12, 19615, 2022. [doi]

DG\*, Stefan Gustafsson\*, Erik Lampa, Antônio H. Ribeiro, Martin J. Holzmann, Thomas B. Schön, Johan Sundström, **ResNet-based ECG Diagnosis of Myocardial Infarction in the Emergency Department**, *Machine learning from ground truth: New medical imaging datasets for unsolved medical problems* Workshop at NeurIPS, 2021, Online. (Spotlight talk) [Paper] [Slides]

DG, Antônio H. Ribeiro, Niklas Wahlström, Thomas B. Schön, **First Steps Towards Self-Supervised Pretraining of the 12-Lead ECG**, *Computing in Cardiology (CinC)*, 2021, online. [doi] [Slides] [Video (10 min)]

DG, Niklas Wahlström, Thomas B. Schön, Lennart Ljung, **Deep State Space Models for Nonlinear System Identification**, *Proceedings of the 19th IFAC Symposium on System Identification (SYSID)*, 2021, online. [doi] [arXiv] [Code] [Slides]

Antônio H. Ribeiro, DG, Daniel Martins Teixeira, Manoel H. Ribeiro, Antonio L. Pinho Ribeiro, Thomas B. Schön, Wagner Meira Jr., **Automatic 12-lead ECG classification using a convolutional network ensemble**, *Computing in Cardiology (CinC)*, 2020, Online. [doi] [Code] [Slides]

DG, Pieter Piscaer, Kim Batselier, Carlas Smith and Michel Verhaegen, **Tensor Network Kalman Filter for LTI Systems**, *27th European Signal Processing Conference (EUSIPCO)*, A Coruña, Spain, 2019, pp. 1-5. [doi] [Code] [Slides]

DG, **Tensor Network Kalman Filter for Large-Scale MIMO Systems: With Application to Adaptive Optics**, *Master Thesis*, TU Delft, The Netherlands, 2019. [Thesis] [Slides]

Thomas Ott, Marc Hirth, Massimo Casasco, Simon Görries, DG, Alison Ponche, **PointingSat – High Precision Pointing Error Analysis with ESA PEET v1.0**, *10th International ESA Conference on Guidance, Navigation & Control Systems*, Salzburg, Austria, 2017. [Paper]

## Industrial Positions

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**Satellite Attitude and Orbit Control System Analyst**, (10/2015 - 09/2016)

Airbus Defence and Space, Friedrichshafen, Germany

Department: AOCS, GNC and Flight Dynamics

## Personal Experience

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**Solo Travel** (10/2016 - 04/2017)

Long distance hike alone in Patagonia [Greater Patagonian Trail].

Backpacking and exploring new cultures.

Studying Spanish (Sucre, Bolivia).

**Voluntary Work** (04/2017 - 08/2017)

Ansbach, Germany.

Full-time work with primary school children, elderly and refugees.

# Pedagogical Education

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Academic teacher training course, Uppsala University, 7.5 credits, 2022, [\[Syllabus\]](#)

## Languages

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German (mother tongue)

English (fluent)

Swedish (intermediate knowledge)

Spanish (beginner)