Daniel Gedon

Curriculum Vitae, November 2022

Personal Data

University Address:	Uppsala University Department of Information Technology SE–751 05 Uppsala, Sweden
E-Mail:	daniel.gedon@it.uu.se
Website:	dgedon.github.io
GitHub:	github.com/dgedon
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LinkedIn:	linkedin.com/in/dgedon/
Birth:	11.05.1994 in Feuchtwangen, Germany
Citizenship:	German

Academic Positions

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

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

Teaching Assistant (10/2018 - Present)

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

TU Delft, The Netherlands
SC42025, Filtering and Identification, MSc level, Fall 2018, [Syllabus]

Supervision

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

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

Invited Talks

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

Joint DSBS/FMS Meeting, Malmö, November 2022, "Deep Learning-based ECG Reading in the Emergency Department - Diagnosis of Myocardial Infarctions"

Publications

* equal contribution.

Peer-reviewed publications

Stefan Gustafsson*, **Daniel Gedon***, 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]

Daniel Gedon*, 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]

Daniel Gedon, 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)]

Daniel Gedon, 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, **Daniel Gedon**, 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]

D. Gedon, P. Piscaer, K. Batselier, C. Smith and M. Verhaegen, "Tensor Network Kalman Filter for LTI Systems", 27th European Signal Processing Conference (EUSIPCO), A Coruna, Spain, 2019, pp. 1-5. [doi] [Code] [Slides]

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

Ott T., Hirth M., Casasco M., Goerries S., **Gedon D.**, Ponche A., "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

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

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.