

Autonomous Systems and Control  
Siemens Technology Center Garching  
Friedrich-Ludwig-Bauer-Str. 3  
85748 Garching

Phone: +49 (0) 173 358-6822  
Skype-ID: simonniederlaender  
Email: [simon.niederlaender@siemens.com](mailto:simon.niederlaender@siemens.com)  
URL: <https://niederlaender.github.io>

## RESEARCH INTERESTS

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Convex Optimization; Dynamical Systems; Monotone Operators; Systems and Control

## PROFESSIONAL EXPERIENCE

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### *Industrial Experience*

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| since 08/2023   | <b>Research Scientist</b><br>Corporate Research (Autonomous Systems and Control)<br>Siemens AG, Munich Area, Germany    |
| 11/2021–07/2023 | <b>Systems and Control Engineer</b><br>Research and Development (System Design)<br>MTU Aero Engines AG, Munich, Germany |
| 04/2014–07/2014 | <b>Graduate Research Intern</b><br>Corporate Research (Control Theory)<br>Robert Bosch GmbH, Stuttgart Area, Germany    |

### *Research Experience*

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|-----------------|---|
| 09/2015–10/2021 | <b>Research and Teaching Assistant</b><br>Institute for Systems Theory and Automatic Control<br>University of Stuttgart, Germany            |
| 10/2014–07/2015 | <b>Graduate Research Assistant</b><br>Department of Mechanical and Aerospace Engineering<br>University of California, San Diego, CA, USA    |
| 06/2012–09/2012 | <b>Undergraduate Research Assistant</b><br>Department of Electrical and Computer Engineering<br>National University of Singapore, Singapore |

## EDUCATION

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|-----------------|---|
| 09/2015–12/2022 | <b>Dr.-Ing., Systems Theory and Automatic Control</b><br>University of Stuttgart, Germany |
| 10/2012–08/2015 | <b>M.Sc., Engineering Cybernetics</b><br>University of Stuttgart, Germany                 |
| 10/2008–09/2012 | <b>B.Eng., Mechanical Engineering</b><br>Deggendorf Institute of Technology, Germany      |

## HONORS AND AWARDS

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| 2014–2015 | <b>Dr. Jürgen und Irmgard Ulderup Fellowship</b>  |
| 2011–2015 | <b>Fellow of German Academic Scholarship Foundation</b><br>(Studienstiftung des deutschen Volkes) |
| 2010–2012 | <b>Fellow of German Academic Exchange Service</b><br>(Deutscher Akademischer Austauschdienst)     |

TEACHING ASSISTANCE

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|             |   |
|-------------|---|
| 2020–2021   | <b>Systems and Control</b> (Undergraduate Course), University of Stuttgart                  |
| 2016–2020   | <b>Nonlinear Control</b> (Graduate Course), University of Stuttgart                         |
| Summer 2019 | <b>Convex Optimization</b> (Graduate Course), University of Stuttgart                       |
| Winter 2017 | <b>Introduction to Automatic Control</b> (Undergraduate Course),<br>University of Stuttgart |
| Winter 2015 | <b>Introduction to Adaptive Control</b> (Graduate Course),<br>University of Stuttgart       |

INVITED TALKS

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|         |   |
|---------|---|
| 01/2023 | <b>Learning and Dynamical Systems Group</b> , Max Planck Institute for Intelligent Systems, Tübingen, Germany |
| 11/2022 | <b>Research Seminar Dynamical Systems</b> , University of Passau, Germany                                     |

PROFESSIONAL SERVICE

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*Membership in Professional Societies*

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| since 2015 | <b>Society of Industrial and Applied Mathematics</b> (SIAM)     |
| since 2014 | <b>Institute of Electrical and Electronics Engineers</b> (IEEE) |
| since 2014 | <b>Control Systems Society</b> (CSS)                            |

*Reviewer (Journal Articles)*

Automatica; IEEE Control Systems Letters; IEEE Transactions on Automatic Control; Operations Research Letters; Optimization; SIAM Journal on Control and Optimization

PUBLICATIONS

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*Journal Articles*

- [J-03] **S. K. Niederländer**, *On the Arrow–Hurwicz differential system for linearly constrained convex minimization*, Optimization, 73 (2023), pp. 2313–2345.
- [J-02] **S. K. Niederländer**, *Second-order dynamics with Hessian-driven damping for linearly constrained convex minimization*, SIAM J. Control Optim., 59 (2021), pp. 3708–3736.
- [J-01] J. Cortés and **S. K. Niederländer**, *Distributed coordination for nonsmooth convex optimization via saddle-point dynamics*, J. Nonlinear Sci., 29 (2019), pp. 1247–1272.

*Conference Proceedings*

- [C-03] **S. K. Niederländer**, *Ergodic convergence results for the Arrow–Hurwicz differential system*, in Proc. IEEE Conf. Decis. Control, Singapore, 2023, pp. 7293–7298.
- [C-02] **S. K. Niederländer**, F. Allgöwer and J. Cortés, *Exponentially fast distributed coordination for nonsmooth convex optimization*, in Proc. IEEE Conf. Decis. Control, Las Vegas, NV, USA, 2016, pp. 1036–1041.
- [C-01] **S. K. Niederländer** and J. Cortés, *Distributed coordination for separable convex optimization with coupling constraints*, in Proc. IEEE Conf. Decis. Control, Osaka, Japan, 2015, pp. 694–699.

*Other Works*

- [O-02] **S. K. Niederländer**, *Dynamical approaches to linearly constrained convex minimization*, Ph.D. Thesis, University of Stuttgart, 2022.
- [O-01] **S. K. Niederländer**, *Distributed continuous-time coordination for nonsmooth convex and robust optimization*, Master Thesis, University of Stuttgart, 2015.

REFERENCES

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**Prof. Dr.-Ing. Frank Allgöwer**

Institute for Systems Theory and Automatic Control

University of Stuttgart, Germany

Email: [frank.allgower@ist.uni-stuttgart.de](mailto:frank.allgower@ist.uni-stuttgart.de)

URL: <http://www.ist.uni-stuttgart.de>

**Prof. Dr.-Ing. Christian Ebenbauer**

Chair of Intelligent Control Systems

RWTH Aachen University, Germany

Email: [christian.ebenbauer@ic.rwth-aachen.de](mailto:christian.ebenbauer@ic.rwth-aachen.de)

URL: <https://www.ic.rwth-aachen.de/>

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