

# JOHANNES MILZ

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## Contents

<b>I</b>	<b>Earned Degrees</b>	<b>2</b>
<b>II</b>	<b>Employment History</b>	<b>2</b>
<b>III</b>	<b>Honors and Awards</b>	<b>3</b>
A	International or National Awards . . . . .	3
B	Institute or School Awards . . . . .	3
<b>IV</b>	<b>Research, Scholarship, and Creative Activities</b>	<b>3</b>
A	Published Books, Book Chapters, and Edited Volumes . . . . .	3
B	Refereed Publications and Submitted Articles . . . . .	3
C	Other Publications and Creative Products . . . . .	4
D	Presentations . . . . .	5
E	Grants and Contracts . . . . .	7
F	Other Scholarly and Creative Accomplishments . . . . .	7
G	Societal and Policy Impacts . . . . .	7
H	Other Professional Activities . . . . .	7
<b>V</b>	<b>Education</b>	<b>7</b>
A	Courses Taught . . . . .	7
B	Individual Student Guidance . . . . .	8
C	Educational Innovations and Other Contributions . . . . .	9
<b>VI</b>	<b>Service</b>	<b>10</b>
A	Professional Contributions . . . . .	10
B	Public and Community Service . . . . .	12
C	Institute Contributions . . . . .	12

## I Earned Degrees

**Doctorate (Dr. rer. nat.)**, Applied Mathematics (passed with highest distinction), June 2021  
Technical University of Munich, Germany

**Master of Science**, Mathematics in Science and Engineering (passed with distinction), October 2017  
Minors: Mechanical and Electrical Engineering  
Technical University of Munich, Germany

Non-degree seeking student, enrolled in Master's program *Computational Science and Engineering*  
School of Mathematics, Georgia Institute of Technology, Atlanta, GA, August 2016 – May 2017

**Bachelor of Science**, Applied Mathematics, September 2015  
Minors: Physics and Electrical Engineering  
Technical University of Munich, Germany

## II Employment History

**Assistant Professor**  
H. Milton Stewart School of Industrial and Systems Engineering  
Georgia Institute of Technology, Atlanta, GA  
January 2023 – present

**Postdoctoral Researcher**  
Department of Mathematics, Technical University of Munich, Germany  
August 2021 – December 2022  
Mentor: Michael Ulbrich

**Research Associate** (with Teaching Responsibilities)  
Department of Mathematics, Technical University of Munich, Germany  
October 2017 – July 2021  
Advisor: Michael Ulbrich

Member of the International Research Training Group IGDK 1754 Munich – Graz  
March 2018 – August 2021

**Graduate Research Assistant**  
H. Milton Stewart School of Industrial and Systems Engineering  
Georgia Institute of Technology, Atlanta, GA  
Project: *Convexity and quasi-convexity of monotone dynamical systems*  
January 2017 – May 2017  
Advisor: Andy Sun

**Electrical Engineer** (part time)  
IAV Automotive Engineering, Munich, Germany  
October 2014 – June 2016

### III Honors and Awards

#### A International or National Awards

- *Summa cum laude* distinction for doctoral dissertation, Technical University of Munich, Germany, June 2021
- Hurwitz Award for Excellent Completion of Master's Degree, Hurwitz Society, Technical University of Munich, Germany, 2017
- Germany's National Scholarship, German Ministry of Ed. Res. and IBM, Germany, 2017

#### B Institute or School Awards

- Thank-a-Teacher Recognition, Center for Teaching and Learning (CTL), Fall 2024
- Students' Choice Teaching Excellence Award, Fall 2024
- Class of 1969 Teaching Fellow, Center for Teaching and Learning (CTL), 2023–2024 (academic year)

### IV Research, Scholarship, and Creative Activities

#### A Published Books, Book Chapters, and Edited Volumes

*no data*

#### B Refereed Publications and Submitted Articles

##### B.1 Published and Accepted Journal Articles

9. \* **Danlin Li** and Johannes Milz. Criticality measure-based error estimates for infinite dimensional optimization, March 2024. submitted to SIAM Journal on Numerical Analysis. URL: <https://arxiv.org/abs/2402.15948>, accepted for publication in SIAM Journal of Numerical Analysis
  - Code archive: **Danlin Li** and Johannes Milz. Supplementary code for the manuscript: Criticality measure-based error estimates for infinite dimensional optimization, March 2024. [doi:10.5281/zenodo.10798892](https://doi.org/10.5281/zenodo.10798892)
8. \* Johannes Milz. Consistency of sample-based stationary points for infinite-dimensional stochastic optimization. *SIAM J. Optim.*, 35(1):42–61, 2025. [doi:10.1137/23M1600608](https://doi.org/10.1137/23M1600608), URL: <https://epubs.siam.org/eprint/FDKRUTTGVJUJMF5N65T/full>
7. \* Johannes Milz and Thomas M. Surowiec. Asymptotic consistency for nonconvex risk-averse stochastic optimization with infinite dimensional decision spaces. *Math. Oper. Res.*, 49(3):1403–1418, 2024. [doi:10.1287/moor.2022.0200](https://doi.org/10.1287/moor.2022.0200)
6. Johannes Milz and Michael Ulbrich. Sample size estimates for risk-neutral semilinear PDE-constrained optimization. *SIAM J. Optim.*, 34(1):844–869, 2024. [doi:10.1137/22M1512636](https://doi.org/10.1137/22M1512636)
5. \* Johannes Milz. Reliable Error Estimates for Optimal Control of Linear Elliptic PDEs with Random Inputs. *SIAM/ASA J. Uncertain. Quantif.*, 11(4):1139–1163, 2023. [doi:10.1137/22M1503889](https://doi.org/10.1137/22M1503889)
4. Johannes Milz. Consistency of Monte Carlo estimators for risk-neutral PDE-constrained optimization. *Appl. Math. Optim.*, 87(57), 2023. [doi:10.1007/s00245-023-09967-3](https://doi.org/10.1007/s00245-023-09967-3)
3. Johannes Milz. Sample average approximations of strongly convex stochastic programs in Hilbert spaces. *Optim. Lett.*, 17:471–492, 2023. [doi:10.1007/s11590-022-01888-4](https://doi.org/10.1007/s11590-022-01888-4)
2. Johannes Milz and Michael Ulbrich. An approximation scheme for distributionally robust PDE-constrained optimization. *SIAM J. Control Optim.*, 60(3):1410–1435, 2022. [doi:10.1137/20M134664X](https://doi.org/10.1137/20M134664X)
1. Johannes Milz and Michael Ulbrich. An approximation scheme for distributionally robust nonlinear optimization. *SIAM J. Optim.*, 30(3):1996–2025, 2020. [doi:10.1137/19M1263121](https://doi.org/10.1137/19M1263121)

## B.2 Conference Presentation with Proceedings (Refereed)

*no data*

## B.3 Other Refereed Material

*no data*

## B.4 Submitted Journal Articles (with Date of Submission)

3. \* Johannes Milz and Daniel Walter. Empirical risk minimization for risk-neutral composite optimal control with applications to bang-bang control, August 2024. [arXiv:2408.10384](#), submitted to SIAM/ASA J. Uncertain. Quantif.
  - Code archive: Johannes Milz. Supplementary code for the manuscript: Empirical risk minimization for risk-neutral composite optimal control with applications to bang-bang control, August 2024. [doi:10.5281/zenodo.13336970](#)
2. \* **Olena Melnikov** and Johannes Milz. Risk-averse optimization using randomized quasi-Monte Carlo methods, August 2024. [doi:10.48550/arXiv.2408.02842](#), submitted to Journal of Optimization Theory and Applications
  - Code archive: **Olena Melnikov** and Johannes Milz. Supplementary code for the manuscript: Randomized quasi-Monte Carlo methods for risk-averse stochastic optimization, August 2024. [doi:10.5281/zenodo.13227277](#)
1. \* **Olena Melnikov** and Johannes Milz. Convergence rates for ensemble-based solutions to optimal control of uncertain dynamical systems, July 2024. [doi:10.48550/arXiv.2407.18182](#), submitted to SIAM J. Control Optim.
  - Code archive: Johannes Milz. Supplementary code for the manuscript: Convergence rates for ensemble-based solutions to optimal control of uncertain dynamical systems, July 2024. [doi:10.5281/zenodo.12740933](#)

## C Other Publications and Creative Products

### C.1 Open-Source Computer Code and Software

3. Johannes Milz. FW4PDE: Frank-Wolfe algorithms for PDE-constrained optimization, 2022. URL: <https://github.com/milzj/FW4PDE>, [doi:10.5281/zenodo.10644778](#)
  - Code archive: Johannes Milz. milzj/fw4pde: v1.0.2, February 2024. [doi:10.5281/zenodo.10644778](#)
2. Johannes Milz. sNewton4PDEOpt: A semismooth Newton method for elliptic PDE-constrained optimization, Dec. 2022. URL: <https://github.com/milzj/sNewton4PDEOpt>
1. Johannes Milz. MPBNGCInterface.jl: A Julia interface for interfacing the multiobjective proximal bundle method MPBNGC, 2019. URL: <https://github.com/milzj/MPBNGCInterface.jl>

### C.2 Dissertations

3. Johannes Milz. *Topics in PDE-Constrained Optimization under Uncertainty and Uncertainty Quantification*. Dissertation, Technical University of Munich, Munich, 2021. URL: <https://nbn-resolving.org/urn/resolver.pl?urn:nbn:de:bvb:91-diss-20210618-1584169-1-9>, Advisor: Michael Ulbrich, Committee members: Michael Ulbrich, Karl Kunisch (University of Graz, Austria), Alexander Shapiro (Georgia Institute of Technology)

2. Johannes Milz. *A Structure Exploiting Solution Method for Convex Optimal Control Problems and Numerical Examples*. Master's thesis, Technical University of Munich, Munich, 2017
1. Johannes Milz. *Asymptotic Properties of Least-Squares Estimators in Linear Models*. Bachelor's thesis, Technical University of Munich, Munich, 2015. URL: [https://mediatum.ub.tum.de/1274055?id=1274055&change\\_language=en](https://mediatum.ub.tum.de/1274055?id=1274055&change_language=en)

## D Presentations

### D.1 Invited Conference and Workshop Presentations by Advisees

1. **Olena Melnikov** and Johannes Milz. Risk-averse optimization using randomized quasi-Monte Carlo methods. 2024 INFORMS Annual Meeting, Seattle, Washington, October 21, 2024. Part of Session "Efficient Methods for Large-scale Optimization Using Inexactness I"

### D.2 Invited Conference and Workshop Presentations

12. **Olena Melnikov** and Johannes Milz. Sample complexity of risk-neutral optimal control with application to vaccination scheduling for epidemic control. Georgia Statistics Day, Emory University, Atlanta, GA, October 25, 2024
11. Anton J. Kleywegt, Johannes Milz, and Siva Ramani. Derivative-free stochastic optimization via regression-based objective function models. 2024 INFORMS Annual Meeting, Seattle, Washington, October 22, 2024. Part of Session "Efficient Methods for Large-scale Optimization Using Inexactness II"
10. **Olena Melnikov** and Johannes Milz. Ensemble-based solutions for optimal control of uncertain dynamical systems. 25th International Symposium on Mathematical Programming (ISMP), Montréal, Canada, July 23, 2024
9. **Olena Melnikov** and Johannes Milz. Risk-averse optimization using randomized quasi-Monte Carlo methods. 2024 INFORMS Optimization Society (IOS) Conference, Houston, TX, March 22–24, 2024. Part of Session "Optimization of complex physics-based systems"
8. Johannes Milz and Thomas M. Surowiec. Asymptotic consistency for nonconvex risk-averse stochastic optimization with infinite dimensional decision spaces. SIAM Conference on Uncertainty Quantification (UQ24), Trieste, Italy, February 27–March 1, 2024. Part of Minisymposium "Efficient Solution Schemes for Optimization of Complex Systems Under Uncertainty". URL: [https://meetings.siam.org/sess/dsp\\_programsess.cfm?SESSIONCODE=78308](https://meetings.siam.org/sess/dsp_programsess.cfm?SESSIONCODE=78308)
7. Johannes Milz and Daniel Walter. Monte Carlo estimators for risk-neutral nonsmooth optimal control with applications to bang-bang problems. 17th U.S. National Congress on Computational Mechanics (USNCCM17), Albuquerque, New Mexico, July 26, 2023. Part of Minisymposium "Recent Advances in Large-Scale Optimal Engineering Design"
6. Johannes Milz and Michael Ulbrich. Sample size estimates for risk-neutral semilinear PDE-constrained optimization. 2023 SIAM Conference on Optimization (OP23), Seattle, WA, May 31, 2023. Part of Minisymposium "PDE-Constrained Optimization with Nonsmooth Structures or under Uncertainty". URL: [https://meetings.siam.org/sess/dsp\\_talk.cfm?p=129264](https://meetings.siam.org/sess/dsp_talk.cfm?p=129264)
5. Johannes Milz. Consistency of Monte Carlo estimators for risk-neutral PDE-constrained optimization. Computational Methods in Applied Mathematics (CMAM 2022), Technical University of Vienna, Vienna, Austria, August 2022 – September 2022. URL: <https://www.asc.tuwien.ac.at/cmam2022/?id=abstracts>
4. Johannes Milz and Michael Ulbrich. A smoothing method for distributionally robust nonlinear optimization with applications to PDE-constrained problems. DMV Annual Meeting (virtual), Chemnitz, Germany, September 2020
3. Johannes Milz and Michael Ulbrich. An approximation scheme for distributionally robust optimization with PDEs. Annual Colloquium of the Research Training Group IGDK 1754, Augsburg, Ger-

many, November 2019

2. Johannes Milz and Michael Ulbrich. An approximation scheme for distributionally robust optimization with PDEs. Sixth International Conference on Continuous Optimization (ICCOPT), Berlin, Germany, August 2019
1. Johannes Milz and Michael Ulbrich. Approximation scheme for distributionally robust nonlinear optimization. Annual Colloquium of the Research Training Group IGDK 1754, Graz, Austria, November 2018

### D.3 Invited Seminar Presentations

6. **Olena Melnikov** and Johannes Milz. Ensemble-based solutions for optimal control of uncertain dynamical systems. Department of Mathematics, University of Graz, Austria, May 29, 2024
5. Johannes Milz. Ensemble-based solutions for optimal control of uncertain dynamical systems. Data-Enabled Science Seminar, Department of Mathematics, University of Houston, TX, March 21, 2024
4. Johannes Milz and Michael Ulbrich. Sample size estimates for risk-neutral semilinear PDE-constrained optimization. CMAI Colloquium and Applied Mathematics Seminar, George Mason University, Fairfax, VA, September 15, 2023
3. Johannes Milz. Consistency of Monte Carlo estimators for risk-neutral PDE-constrained optimization. Optimization in Oslo (OiO) Seminar, Simula Research Laboratory, Oslo, Norway, December 21, 2022. URL to abstract: <https://thomas-surowiec.github.io/adverts/johannes-milz-advert.pdf>, URL to video: <https://www.youtube.com/watch?v=r8iMfiyTIRc>
2. Johannes Milz. Properties of Monte Carlo estimators for risk-neutral PDE-constrained optimization problems. H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, January 22, 2022
1. Johannes Milz and Michael Ulbrich. An approximation scheme for distributionally robust PDE-constrained optimization. Research Seminar, Institute of Mathematics and Scientific Computing, University of Graz, Austria, November 2019

### D.4 Contributed Conference and Workshop Presentations (Refereed Abstracts)

3. Johannes Milz. Design of renewable tidal turbine farms under model parameter uncertainty. IISE Annual Conference & Expo 2023, New Orleans, LA, May 22, 2023
2. Johannes Milz. Reliable finite element error estimates for optimal control of elliptic PDEs with random inputs. 91st GAMM Annual Meeting (virtual), Kassel, Germany, March 2021. URL: <https://gamm202021.de/images/Dateien/bookofabstracts2021.pdf>
1. Johannes Milz and Michael Ulbrich. An approximation scheme for distributionally robust nonlinear optimization. 90th GAMM Annual Meeting, Vienna, Austria, February 2019. URL: [https://jahr-estagung.gamm-ev.de/wp-content/uploads/2020/07/GAMM2019\\_BookofAbstracts.pdf](https://jahr-estagung.gamm-ev.de/wp-content/uploads/2020/07/GAMM2019_BookofAbstracts.pdf)

### D.5 Other Presentations

8. Johannes Milz, *Optimization of physics-based systems under uncertainty*, PhD seminar, H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, November 15, 2024
7. Johannes Milz, *Optimization of complex physical systems under uncertainty: Why and how*, PhD visit days, H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, March 10, 2023
6. Johannes Milz, *Reliable Error Estimates for Optimal Control of Affine-Linear PDEs with Random Inputs*, IGDK 1754 Graduate Seminar, Department of Mathematics, Technical University of Munich, Germany, January 2021, (virtual)
5. Johannes Milz, *Exponential Tail Bounds for Monte Carlo and Multilevel Monte Carlo Mean Estimators in a Class of Smooth Banach Spaces*, Chair of Mathematical Optimization, Department of Mathematics,

Technical University of Munich, Germany, May 28, 2020 (virtual)

4. Johannes Milz, *What you didn't know about formatting with L<sup>A</sup>T<sub>E</sub>X*, Department of Mathematics, Technical University of Munich, Germany, 2020 (virtual)
3. Johannes Milz, *Sample Average and Finite Element Approximation*, IGDK 1754 Graduate Seminar, Department of Mathematics, Technical University of Munich, Germany, February 2020
2. Johannes Milz, *Cubic Regularization for Optimization Problems in Hilbert Spaces*, IGDK 1754 Graduate Seminar, Department of Mathematics, Technical University of Munich, Germany, May 2019
1. Johannes Milz, *Robust and Distributionally Robust Optimization* IGDK 1754 Graduate Seminar, Department of Mathematics, Technical University of Munich, Germany, January 2019

## E Grants and Contracts

### E.1 Proposals Funded

#### E.1.a As Principal Investigator

1. Title of Project: Reliable data-driven optimization with complex physics-based systems  
Agency/Company: National Science Foundation  
Total Dollar Amount: \$383,840  
Role: PI  
Period of Contract: 08/15/2024 – 07/31/2027  
Candidate's Share: 100%

## F Other Scholarly and Creative Accomplishments

*no data*

## G Societal and Policy Impacts

*no data*

## H Other Professional Activities

### H.1 Research Visits

4. George Mason University, Fairfax, VA, June 11, 2023 – June 16, 2023, invited by Harbir Antil
3. Simula Research Laboratory, Oslo, Norway, December 19, 2022 – December 22, 2022, invited by Thomas M. Surowiec
2. Philipps-Universität Marburg, Germany, March 13, 2022 – March 18, 2022, invited by Thomas M. Surowiec
1. University of Graz, Austria, August 19, 2019 – December 20, 2019, Research Stay within Mobility Period of the Research Training Group IGDK 1754, invited by Karl Kunisch

## V Education

### A Courses Taught

Semester, Year	Course Number	Course Title	Number of Students	CIOS
Fall, 2024	ISyE 4133	Advanced Optimization	47	4.62
Fall, 2024	ISyE 6663	Nonlinear Optimization	28	4.46
Spring, 2024	ISyE 6669	Deterministic Optimization	39	4.89
Fall, 2023	ISyE 6663	Nonlinear Optimization	22	4.86
Spring, 2023	ISyE 6663	Nonlinear Optimization	15	4.71

The last column is the interpolated median of the student responses to the question “Considering everything, the instructor was an effective teacher” in the Course-Instructor Opinion Survey (CIOS). The maximum score is 5, the minimum score is 1.

## B Individual Student Guidance

### B.1 Ph.D. Students

#### B.1.a Graduated Ph.D. Students

*no data*

#### B.1.b In Progress Ph.D. Students

##### 2. Danlin Li

- Degree Program: Operations Research
- Advising Start Date: Fall 2023
- Awards and Honors
  - Anne and Scott Herren President’s Fellowship, Fall 2023–Summer 2024
- Degree Milestones
  - Ph.D. Comprehensive Examination in Operations Research

##### 1. Olena Melnikov

- Degree Program: Operations Research
- Advising Start Date: Fall 2023
- Awards and Honors
  - Anne and Scott Herren President’s Fellowship, Fall 2023–Present
- Degree Milestones
  - Ph.D. Comprehensive Examination in Operations Research
- Professional Memberships
  - Society for Industrial and Applied Mathematics (SIAM), January 2024–present
  - Institute for Operations Research and the Management Sciences (INFORMS), July 2024–present

### B.2 M.S. Students

*no data*

### B.3 Undergraduate Students

*no data*

### B.4 Service on Thesis or Dissertation Committees

#### B.4.a Internal

Student name	School	Advisor	Committee	Dates
Chen Xu	ISyE	Yao Xie	Proposal	April 26, 2024



#### **B.4.b External**

*no data*

#### **B.5 Mentorship of Postdoctoral Fellows or Visiting Scholars**

##### **B.5.a Postdoctoral Fellows**

- Dr. Sivaramakrishnan Ramani, September 1, 2023 – June 14, 2024, Next position: Postdoctoral fellow at Rice University

### **B Individual Student Guidance (Technical University of Munich)**

#### **B.1 M.S. Students Co-Advised (Technical University of Munich)**

2. Oliver Heinzl  
Advisor: Michael Ulbrich  
Degree Program: Mathematics  
Thesis title: Risk-measure-based PDE-constrained optimization under uncertainty  
Semester: Summer 2021–Fall 2021
1. Anastasia Boykova  
Advisor: Michael Ulbrich  
Degree Program: Mathematics  
Thesis title: Fourier Phase Retrieval via Low-Rank Riemannian Optimization Methods  
Semester: Fall 2018–Spring 2019

#### **B.2 Undergraduate Students Co-Advised (Technical University of Munich)**

3. Olena Melnikov  
Advisor: Michael Ulbrich  
Degree Program: Mathematics  
Thesis title: A Regularized Newton Method for Convex Optimization  
Semester: Summer 2022
2. Florian Hübler  
Advisor: Michael Ulbrich  
Degree Program: Mathematics  
Thesis title: Nonconvex Distributed Learning with Compression  
Semester: Fall 2021
1. Adrian Klein  
Advisor: Michael Ulbrich  
Degree Program: Mathematics  
Thesis title: A Survey of Methods and an Implementation of an Algorithm for Nonlinear Semidefinite Programming and Numerical Examples  
Semester: Fall 2018–Spring 2019

### **C Educational Innovations and Other Contributions**

#### **C.1 Course Development**

2. Curriculum Development for ISyE 4133 — Advanced Optimization, and ISyE 6669 — Deterministic Optimization

- *Developed "Opening Case Studies"*: Adapted the "Opening Questions" approach from *Small Teaching: Everyday Lessons from the Science of Learning* (2nd edn) by James M. Lang to create engaging narratives about optimization models, aimed at capturing students' interest.
- *Created Comprehensive Guided Slides*: Designed detailed guided slides to assist students in formulating optimization models, ensuring complex concepts were presented clearly and accessibly.
- *Designed and Implemented Weekly Quizzes*: Developed weekly quizzes on Canvas to regularly assess and reinforce students' understanding of course material, providing timely feedback to support continuous learning.

#### 1. Curriculum Development for ISyE 6663 — Nonlinear Optimization

- *Compiled Extensive Lecture Notes*: Developed over 170 pages of typed lecture notes, incorporating detailed illustrations with over 60 exercises, meticulously tailored to achieve the course's intended learning outcomes.
- *Designed Prerequisite Quiz*: Created a prerequisite quiz to help students assess and refresh their foundational knowledge, ensuring preparedness for advanced course content.
- *Developed Specialized Curriculum*: Showcased the application of mathematical optimization in designing renewable marine energy systems, providing students with real-world examples to illustrate the practical impact of nonlinear optimization.

### C.2 Teaching Certificates

- *Certificate for Teaching in Higher Education of the Bavarian Universities* (foundation level), Technical University of Munich, Germany, 2020

### C.3 Interdisciplinary Teaching Training Courses Attended

- *Storytelling for Teaching in Higher Education*, ProfiLehrePlus, University of the Bundeswehr Munich, Germany, February 2021 (virtual)
- *Teaching Skills* (K290), Sprachraum, University of Munich, Germany, July 2020 (virtual)
- *Designing and Conducting Examinations* (K230), ProLehre, Technical University of Munich, Germany (virtual), July 2020

### C.4 Additional Teaching Experience

- Instructor, *Introduction to Software Tools for Nonlinear Programming*, three-day, extracurricular course, Fall 2018, Spring 2020, Spring 2021, Department of Mathematics, Technical University of Munich, Germany
- Master's students' mentor, *Case Studies on Nonlinear Optimization* (MA4513), Project: Robot Cell Optimization, Department of Mathematics, Technical University of Munich, Germany, Cooperation with Siemens AG, Munich
- Graduate teaching assistant, *Nonlinear Optimization* (MA3503), Fall 2020, Fall 2021, *Nonsmooth Optimization* (MA5510), Spring 2018, *Real Analysis for Electrical Engineers* (MA9412), Fall 2017, Spring 2018, Department of Mathematics, Technical University of Munich, Germany

## VI Service

### A Professional Contributions

#### A.1 Editorial Board Memberships

- Associate Editor, *Operations Research*, 2024–present

## A.2 Society Offices, Activities, and Membership

- Memberships
  - Society for Industrial and Applied Mathematics (SIAM)
    - \* (Early Career) Professional Member, 2023–present
    - \* Student Member, 2016–2021
  - Institute for Operations Research and the Management Sciences (INFORMS), 2023–Present
  - Mathematical Optimization Society (MOS), 2023–Present
  - Institute for Industrial and Systems Engineers (IISE), 2023–present
  - U.S. Association for Computational Mechanics (USACM), August 1, 2023 – August 31, 2025

## A.3 Organization and Chairing of Technical Sessions, Workshops, and Conferences

- Session Chair
  1. “Physical and Financial Performance Analysis of Energy Systems,” IISE Annual Conference & Expo 2023, New Orleans, LA, May 20–23, 2023
- Minisymposium Organizer
  1. “Efficient solution schemes for optimization of complex systems under uncertainty,” 2024 SIAM Conference on Uncertainty Quantification (UQ24), Trieste, Italy, February 27–March 1, 2024 (co-organized with Philipp A. Guth, and Tommaso Vazan)
- Session Chair and Organizer
  3. “Efficient methods for large-scale optimization using inexactness I” and “Efficient methods for large-scale optimization using inexactness II,” 2024 INFORMS Annual meeting, Seattle, WA, October 20–23, 2024 (co-organized with Robert J. Baraldi)
  2. “PDE-constrained optimization under uncertainty,” 25th International Symposium on Mathematical Programming (ISMP), Montréal, Canada, July 21–26, 2024
  1. “Optimization of complex physics-based systems,” 2024 INFORMS Optimization Society Conference, Houston, TX, March 22–24, 2024 (co-organized with Akwum Onwunta)

## A.4 Technical Journal Referee Activities

- Applied Mathematics and Optimization
- Computational Optimization and Applications
- ESAIM: Control, Optimisation and Calculus of Variations
- IEEE Transactions on Signal Processing
- Journal of Differential Equations
- Journal of Optimization Theory and Applications
- SIAM Journal on Scientific Computing
- SIAM Journal on Optimization
- Optimization and Engineering

## A.5 Proposal Panels and Reviews

*no data*

## A.6 Other Involvement

- Judge, *IISE Doctoral Colloquium 3 Minute Pitch Competition*, IISE Annual Conference & Expo 2023, New Orleans, LA, May 21, 2023

## **B Public and Community Service**

### **B.1 Outreach to K-12 Students**

- Conducted and organized an activity session on *Exploration - Exploitation* for 23 high school students during the *2023 Probability and Statistics High School Competition* jointly with Shubhada Agrawal and Diego Cifuentes held at Georgia Institute of Technology in March 2023.

## **C Institute Contributions**

### **C.1 School Committee Service**

- Graduate Student Admission Committee, 2022–present

### **C.2 Other Institute Service Contributions**

- Compiled and graded Spring 2025, Fall 2024, and Spring 2024 ISyE 6663 Comprehensive Exams
- Compiled and graded Fall 2023 ISyE 6663 Comprehensive Exam jointly with Guanghui Lan

## **C Institute Contributions (Technical University of Munich)**

### **C.1 Other Institute Service Contributions**

- Spokesperson of the graduate students of the Research Training Group IGDK 1754, 2019 – 2021, Initiated four compact courses and co-organized three compact courses held by internationally renowned researchers
- Compiled [Book of Abstracts for 89th GAMM \(Association of Applied Mathematics and Mechanics\) Annual Meeting](#) (with Lukas Hertlein), Technical University of Munich, Germany, 2018