Hajg Jasa

Alfred Getz' vei 1
Trondheim, Norway
✉ *hajg.jasa@ntnu.no*
Personal university homepage

Ph.D. candidate in applied mathematics developing and analyzing algorithms for convex and nonconvex nonsmooth optimization problems on Riemannian manifolds. Emerging research interests include variational analysis on Riemannian manifolds, applications to robotics motion planning, and geometric optimization methods for physics-informed computational problems.

Education

Aug 2022 - Present **Ph.D. in Mathematics**, *Norwegian University of Science and Technology (NTNU)*, Trondheim, Norway.
Thesis: *"Numerical Methods for Nonsmooth Optimization on Riemannian Manifolds"*.
Supervisor: *Prof. Ronny Bergmann*; co-supervisor: *Prof. Brynjulf Owren*.

Oct 2018 - Mar 2021 **M.Sc. in Mathematics**, *University of Milano-Bicocca*, Milan, Italy.
Thesis title: *"The Schoen-Yau Positive Mass Theorem"*. *GPA: 110/110 Cum Laude*.
Supervisor: *Prof. Alberto Della Vedova*.

Oct 2015 - Nov 2018 **B.Sc. in Physics**, *University of Milano-Bicocca*, Milan, Italy.
Thesis title: *"Gromov's Non-squeezing Theorem"*. *GPA: 103/110*.
Supervisor: *Prof. Alberto Della Vedova*.

Research Secondments

Dec 2024 Georg August University of Göttingen, *Göttingen, Germany*.
Visiting researcher at the Institute for Numerical and Applied Mathematics. Research collaboration on intrinsic Riemannian proximal gradient algorithms with *B.Sc. Paula John* and *Prof. Max Pfeffer*.

Sep 2023 - Dec 2023 Heidelberg University, *Heidelberg, Germany*.
Visiting researcher at the Scientific Computing and Optimization group in the Interdisciplinary Center for Scientific Computing (IWR). Research collaboration on "The Riemannian Convex Bundle Method" with *Prof. Roland Herzog*.

Work Experience

Apr 2022 - Jul 2022 **Research Assistant**, *Center for Corporate Responsibility and Sustainability (CCRS) at the University of Zurich and University of Applied Science of Western Switzerland*, Zurich, Switzerland.
Full research assistant position continued from the previous internship.

Nov 2021 - Apr 2022 **Research Internship**, *CCRS at UZH and HEFR*, Zurich, Switzerland.
Development and testing of the sustainability rating tool esg2go, implementing statistical models and data analysis pipelines in Python and Julia. Worked with machine learning and optimization techniques at the Center for Corporate Responsibility and Sustainability, initially at the University of Zurich, and later at the University of Applied Science of Western Switzerland in Fribourg. Group leader: *Dr. Isa Cakir*.

Teaching

Jan 2025 - Jun 2025 **Teaching Assistant**, *NTNU*, Trondheim, Norway.
Course: TMA4125 Matematikk 4N. Differential equations and Fourier analysis.

Aug 2024 - Dec 2024 **Teaching Assistant**, *NTNU*, Trondheim, Norway.
Course: TMA4215 Numerisk Matematikk. Numerical Mathematics.

Publications

Preprints

2025 H. Jasa, R. Bergmann, C. Kümmerle, A. Athreya, Z. Lubberts. *Procrustes Problems on Random Matrices*. arXiv:2510.05182.

2025 R. Bergmann, H. Jasa, P. John, and M. Pfeffer. *The Intrinsic Riemannian Proximal Gradient Method for Convex Optimization*. arXiv:2507.16055.

2025 R. Bergmann, H. Jasa, P. John, and M. Pfeffer. *The Intrinsic Riemannian Proximal Gradient Method for Nonconvex Optimization*. arXiv:2506.09775.

2024 R. Bergmann, R. Herzog, H. Jasa. *The Riemannian Convex Bundle Method*. arXiv:2402.13670.

Conferences Talks and Posters

Talks

Aug 2025 **Math Meets Industry**, Trondheim, Norway.
Short talk. Optimization on Riemannian Manifolds.

Dec 2024 **Colloquium on Applied Mathematics**, Göttingen, Germany.
Invited seminar talk. Nonsmooth Optimization on Riemannian Manifolds.

Jul 2024 **EURO 2024**, Copenhagen, Denmark.
Invited conference talk. The Riemannian Convex Bundle Method.

May 2024 **2024 SIAM Conference on Applied Linear Algebra**, Paris, France.
Invited conference talk. Nonsmooth Optimization on Manifolds.

Apr 2024 **DNA Seminar**, Trondheim, Norway.
Seminar talk. The Riemannian Convex Bundle Method.

Dec 2023 **SCOOP Optimization Seminar**, Heidelberg, Germany.
Invited seminar talk. The Riemannian Convex Bundle Method.

Mar 2023 **Ph.D. Seminar**, Trondheim, Norway.
Seminar talk. The Convex Bundle Method on Hadamard Manifolds.

Feb 2023 **MaGIC 2023**, Øyer, Norway.
Invited conference talk. The Convex Bundle Method on Hadamard Manifolds.

Posters

Jul 2025 **ICCOPT 2025**, Los Angeles, USA.
The Convex Riemannian Proximal Gradient Method.

Miscellaneous

Summer Schools

Jul 2025 **ICCOPT 25**, Los Angeles, USA.
Optimization summer school. Topics include: nonconvex stochastic optimization, continuous optimization for discrete problems, distributed secure and privacy-aware optimization, and variational analysis and computation. Participated actively in the summer school and conference, engaging with experts and peers in the field of optimization, with a focus on identifying practical applications and new theoretical questions.

Workshops

May 2025 **ESGI 168**, Trondheim, Norway.
Member of the study group that worked on a problem proposed by Statnett, the power grid provider in Norway. Developed a mathematical model to find the optimal bidding strategy of a power provider in the day-ahead and capacity markets. We proposed a first solution for a simplified battery model.

Peer Reviewing

My peer reviewing activities can be found on Web of Science and include the following journals:

2x *Optimization Methods and Software.*

Computer Skills

Advanced Julia (contributor to Manifolds.jl, Manopt.jl), LaTeX, Microsoft Office.
Intermediate Python, Git, OpenOffice, Linux (Ubuntu), macOS, Microsoft Windows.

Languages

Native Italian, Albanian (bilingual proficiency)
Advanced English (Cambridge English Advanced, C1)
Basic Dutch (A2/B1), German (A2)

Last update: October 30, 2025.