



DANISH KASHAEV

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PERSONAL INFORMATION

Name: Danish Kashaev

Nationality: Swiss

Place of residence: Amsterdam, Netherlands

Date of birth: 03.04.1997

Marital Status: Single

EDUCATION

PhD Student | *Networks and Optimization*

Centrum Wiskunde & Informatica | *Supervision: Guido Schäfer, Daniel Dadush*

Nov. 2021 – Present

Amsterdam, Netherlands

Master of Science | *Mathematics (5.8/6, cum laude)*

ETH Zurich

Aug. 2018 – April 2021

Zurich, Switzerland

Exchange Student

University of California

Sep. 2017 – May 2018

Santa Barbara, USA

Bachelor of Science | *Mathematics (5.6/6, cum laude)*

University of Geneva

Aug. 2015 – May 2018

Geneva, Switzerland

Gymnasial Matura (Bilingual English) | *Best Mathematics GPA award*

Collège et Ecole de Commerce André-Chavanne

Aug. 2011 – May 2015

Geneva, Switzerland

WORK EXPERIENCE

Teaching Assistant: Mathematical Optimization

ETH Zurich, Institute for Operations Research

September 2020 – December 2020

Zurich, Switzerland

- Led a two-hour weekly exercise class for the 11 ECTS course Mathematical Optimization
- Graded homework assignments
- Grading of the exam

Algorithm Developer (Part Time)

Aspaara Algorithmic Solutions

January 2021 – November 2021

Zurich, Switzerland

- Developed algorithms for applied optimization problems: assignment, scheduling, mixed integer programming
- Implementation of the algorithms in Python

Teaching Assistant: Algorithmic Game Theory

University of Amsterdam

September 2023 – December 2023

Amsterdam, The Netherlands

- Led a two-hour weekly exercise class for the course Algorithmic Game Theory
- Graded homework assignments

THESES

Master's Thesis

- ETH Zurich, Institute for Operations Research
- Title: *An Optimal Monotone Contention Resolution Scheme for Uniform and Partition Matroids*

PhD Thesis

- University of Amsterdam, Institute for Logic, Language and Computation
- Title: *Approximation via Duality in Offline, Online and Strategic Settings*

PROJECTS AND RESEARCH

A Simple Optimal Contention Resolution Scheme for Uniform Matroids

- Co-author: Richard Santiago
- Journal version in *Theoretical Computer Science* 2023
- ArXiv version: <https://arxiv.org/abs/2105.11992>

A Nearly Optimal Randomized Algorithm for Explorable Heap Selection

- Co-authors: Sander Borst, Daniel Dadush, Sophie Huiberts
- Journal version in *Mathematical Programming* 2024
- Conference version in *IPCO* 2023
- ArXiv version: <https://arxiv.org/abs/2210.05982>

Round and Bipartize for Vertex Cover Approximation

- Co-author: Guido Schäfer
- Conference version in *APPROX* 2023
- ArXiv version: <https://arxiv.org/abs/2211.01699>

Online Matching on 3-Uniform Hypergraphs

- Co-authors: Sander Borst, Zhuan Khye Koh
- Conference version in *IPCO* 2025
- ArXiv version: <https://arxiv.org/abs/2402.13227>

Selfish, Local and Online Scheduling via Vector Fitting

- Conference version in *SODA* 2026
- ArXiv version: <https://arxiv.org/abs/2505.10082>

Improved Online Load Balancing in the Two-Norm

- Co-author: Sander Borst
- ArXiv version: <https://arxiv.org/abs/2511.03345>

ATTENDED WORKSHOPS AND CONFERENCES

Workshop on Algorithms with Predictions

2022, Ecole Polytechnique Fédérale de Lausanne

International Conference on Integer Programming and Combinatorial Optimization

2022, TU Eindhoven

LNMB Conference on Mathematics of Operations Research

2023, Soesteberg

International Conference on Approximation Algorithms for Combinatorial Optimization Problems

2023, Georgia Institute of Technology

Aussois Workshop on Combinatorial Optimization

2024, Aussois

Fulkerson 100 Workshop

2024, University of Waterloo

International Symposium on Mathematical Programming

2024, Montréal

Cargèse Workshop on Combinatorial Optimization

2024, Cargèse

Summer School on Synergies of Combinatorics and Theoretical Computer Science

2024, Ecole Polytechnique Fédérale de Lausanne

Highlights of Algorithms

2025, ETH Zurich

International Conference on Integer Programming and Combinatorial Optimization

2025, Johns Hopkins University

Satellite Workshop: Learning Augmented Algorithms

2025, CWI Amsterdam

SKILLS

Languages

French (native), Tatar (native), English (fluent), Russian (fluent), Dutch (B2-C1)

Programming

Python, R, MATLAB, C++, Mathematica

Document Creation

LaTeX

EXTRACURRICULAR ACTIVITIES

Tennis

Highest Swiss ranking: N4(130)

Piano

Studied 14 years at *Geneva Music Conservatory*