



# DANISH KASHAEV

+31 6 45 63 79 06

[danish.kashaev@cwj.nl](mailto:danish.kashaev@cwj.nl)

[danich.1997@gmail.com](mailto:danich.1997@gmail.com)

## 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
- Journal version under revision for *Mathematical Programming*
- 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), German (B1-B2)

### **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*