

# Igor Malinović

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## Contact information

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Switzerland             OrcID: 0000-0003-1617-9335

## Research interests

Combinatorial optimization, Approximation algorithms

## Education

- 2014-present: Ph.D. in Mathematics  
EPFL, Lausanne, Switzerland  
Topic: *Approximate formulations for knapsack sets*  
Advisor: Prof. Friedrich Eisenbrand  
Co-advisor: Prof. Yuri Faenza (Columbia University)
- 2014: M.Sc. in Computer Science, Minor in Mathematics  
EPFL, Lausanne, Switzerland  
Thesis: *Mathematical programming for SMT*  
Advisor: Prof. Friedrich Eisenbrand  
(GPA: 5.15/6.00)
- 2011: B.Sc. in Computer Science  
University of Novi Sad, Novi Sad, Serbia  
(GPA: 9.96/10.00)

## Employment

- Sept-Oct 2014: Research assistant  
*Invariant generation using integer programming*  
DISOPT group, EPFL, Lausanne, Switzerland  
Advisors: Prof. Friedrich Eisenbrand,  
Andrey Rybalchenko (Microsoft Research)
- Aug 2013-Feb 2014: Intern  
*Extraction and analysis of wind farm data*  
ABB Corporate Research, Dätwil, Switzerland  
Advisors: Carsten Franke and Yan Zhang
- Mar-Jun 2013: Research assistant (part time)  
*SOS hierarchies for solving non-linear systems*  
DISOPT group, EPFL, Lausanne, Switzerland  
Advisor: Prof. Friedrich Eisenbrand
- Nov 2012-Jan 2013: Intern (part time)  
*Processes automation for financial reporting*  
Nestlé Capital Advisers, La Tour-de-Peilz, Switzerland  
Advisor: Fabian Zepeda

## Languages

Serbian (native), English (advanced), French (intermediate),  
German (elementary)

- Student projects supervision**
- Joachim Moussalli & Maurice Amendt : *Multi-objective optimization for risk treatment*, M.Sc. Spring 2018, EPFL
- Augustin Prado: *Convolutional neural networks for autonomous mobile robots*, M.Sc. Fall 2017, EPFL
- Jonas Racine: *Robot navigation via support vector machines*, M.Sc. Spring 2017, EPFL
- Joachim Moussalli: *A PID controller for path following*, B.Sc. Fall 2016, EPFL
- Pol Chapon: *Applying the Lasserre hierarchy to solving non-linear feasibility problems*, B.Sc. Spring 2016, EPFL
- Teaching assistant**
- Spring 2015-2018: Discrete optimization (main assistant), B.Sc., EPFL
- Fall 2017: Discrete mathematics, B.Sc., EPFL
- Fall 2016: Analysis I, B.Sc., EPFL
- Fall 2015: Linear algebra, B.Sc., EPFL
- Research visits**
- Jan, Jul-Sept 2017: Industrial Engineering and Operations Research, Columbia University, New York, US
- Apr 2014: Microsoft Research, Cambridge, UK
- Organization, promotion**
- 2015: Conference University De Suisse Occidentale (CUSO) "Career day" for Ph.D. students, EPFL, Switzerland
- 2010: Advances in Databases and Information Systems (ADBIS) conference, University of Novi Sad, Serbia
- Prizes, awards, fellowships**
- 2011-2013: The Swiss Government Excellence scholarship
- 2009, 2010: "Extraordinary award" for the results in the B.Sc. program by University of Novi Sad
- 2009-2011: Dr. Milan Jelić's foundation scholarship
- Publications**
- Y. Faenza, I. Malinović, M. Mastrolilli, and O. Svensson. *On bounded pitch inequalities for the min-knapsack polytope*. In Proc. of ISCO '18, pp. 170-182, 2018
  - Y. Faenza and I. Malinović. *A PTAS for the time-invariant incremental knapsack problem*. In Proc. of ISCO '18, pp. 157-169, 2018
  - R. Fulek, J. Kyncl, I. Malinović and D. Pálvölgyi. *Clustered planarity testing revisited*. The Electronic Journal of Combinatorics, vol. 22, num. 4, p. P4.24, 2015