

Education

Carnegie Mellon University <i>Ph.D. in Computer Science, Advised by Prof. Bernhard Haeupler</i> Thesis: Towards Universal Optimality in Distributed Optimization	School of Computer Science 2015–2020
University of Zagreb <i>Master of Computer Science, Advised by Prof. Mile Šikić</i> GPA—3.84 (out of 4.0)	Faculty of Electrical Engineering and Computing 2012–2015
University of Zagreb <i>Bachelor of Computer Science</i> GPA—3.87 (out of 4.0)	Faculty of Electrical Engineering and Computing 2009–2011

Professional Experience

ETH Zürich, postdoctoral scholar <i>continued my research in the area of principles of distributed computing</i>	Research group of Prof. Mohsen Ghaffari Sep 2020–present
Google Research, research intern <i>using AI techniques to solve theoretical algorithmic questions</i>	May–Aug 2019
VMware, research intern <i>worked on theoretical algorithmic lower bounds</i>	Research Team May–Sep 2016
Carnegie Mellon University, teaching assistant <i>15-850 “Advanced Algorithms” (1 guest lecture), 15-859 Z “Algorithmic Superpower Randomization” (1 guest lecture), and 15-750 “Graduate Algorithms”</i>	2016–2020
Vibby (startup) <i>developed a social video platform</i>	Founding Development Team 2013–2015
Twitter, software engineering intern <i>developed a distributed system for online clustering large number of tweets based on NLP</i>	Advanced Analytics team Jul–Oct 2013
Facebook, software engineering Intern <i>multiple projects</i>	Summers of 2010, 2011, and 2012
University of Zagreb, teaching assistant <i>TA for “Algorithms and Data Structures” and “Competitive programming” course (multiple guest lectures)</i>	2010–2012

Awards

2021 ACM-EATCS Principles of Distributed Computing Doctoral Dissertation Award <i>for the best thesis in the area of principles of distributed computing (co-awarded with Leqi Zhu)</i>	2021
NSF Grant (\$400,000) <i>helped write “Distributed Optimization Beyond Worst Case Topologies”, whose scope significantly overlaps with my thesis</i>	2019
DFINITY Scholarship for 2018 (individual) <i>a total of 3 individual and 1 team scholarships were awarded</i>	2018
ACM International Collegiate Programming Competition (ACM ICPC), World Finals <i>silver medal (ranked 8/122 invited teams)</i>	2014
Rector’s Grand Award, University of Zagreb <i>for the paper titled “LISA - A tool for DNA alignment” (in Croatian, “LISA - Alat za poravnanje DNA očitavanja”)</i>	2013
The City of Zagreb Merit Scholarship <i>given to top students in Croatia’s capital city</i>	2009–2011
International Olympiad in Informatics (IOI) <i>gold medal in 2007 (ranked 4/285), gold medal in 2008 (ranked 5/283)</i>	2007–2009
US Invitational Computing Olympiad (USACO) <i>first place out of 15 invited competitors; I was the only non-US competitor that was invited</i>	June 2008

Publications (authors are in alphabetical order unless otherwise stated)

- [1] Bernhard Haeupler, David Wajc, and Goran Zuzic. "Universally-Optimal Distributed Algorithms for Known Topologies". In: *ACM Symposium on Theory of Computing (STOC)* (2021).
- [2] Mohsen Ghaffari, Bernhard Haeupler, and Goran Zuzic. "Hop-Constrained Oblivious Routing". In: *ACM Symposium on Theory of Computing (STOC)* (2021).
- [3] Bernhard Haeupler, D. Ellis Hershkowitz, and Goran Zuzic. "Tree Embeddings for Hop-Constrained Network Design". In: *ACM Symposium on Theory of Computing (STOC)* (2021).
- [4] Bernhard Haeupler, David Wajc, and Goran Zuzic. "Network Coding Gaps for Completion Times of Multiple Unicasts". In: *IEEE Symposium on Foundations of Computer Science (FOCS)* (2020).
- [5] Domagoj Bradac, Anupam Gupta, Sahil Singla, and Goran Zuzic. "Robust Algorithms for the Secretary Problem". In: *Innovations in Theoretical Computer Science Conference (ITCS)* (2019).
- [6] Domagoj Bradac, Sahil Singla, and Goran Zuzic. "(Near) Optimal Adaptivity Gaps for Constrained Stochastic Probing". In: *International Conference on Randomization and Computation (RANDOM)* (2019).
- [7] Keren Censor-Hillel, Bernhard Haeupler, D. Ellis Hershkowitz, and Goran Zuzic. "Erasure Correction for Noisy Radio Networks". In: *33rd International Symposium on Distributed Computing (DISC)*. Vol. 146. Leibniz International Proceedings in Informatics (LIPIcs). 2019, 10:1–10:17. ISBN: 978-3-95977-126-9.
- [8] Bernhard Haeupler, Jason Li, and Goran Zuzic. "Minor Excluded Network Families Admit Fast Distributed Algorithms". In: *Proceedings of the 2018 ACM Symposium on Principles of Distributed Computing (PODC)*. ACM. 2018, pp. 465–474.
- [9] Filip Pavetić, Ivan Katanić, Gustav Matula, Goran Žužić, and Mile Šikić. "Fast and Simple Algorithms for Computing both LCS_k and LCS_{k+} ". In: *Proceedings of the Prague Stringology Conference 2018*. Ed. by Jan Holub and Jan Žďárek. Czech Technical University in Prague, Czech Republic, 2018, pp. 50–62. ISBN: 978-80-01-06484-9.
- [10] Keren Censor-Hillel, Bernhard Haeupler, D. Ellis Hershkowitz, and Goran Zuzic. "Broadcasting in Noisy Radio Networks". In: *Proceedings of the ACM Symposium on Principles of Distributed Computing (PODC)*. ACM. 2017, pp. 33–42.
- [11] Bernhard Haeupler, Taisuke Izumi, and Goran Zuzic. "Near-Optimal Low-Congestion Shortcuts on Bounded Parameter Graphs". In: *International Symposium on Distributed Computing (DISC)*. Springer. 2016, pp. 158–172.
- [12] Bernhard Haeupler, Taisuke Izumi, and Goran Zuzic. "Low-Congestion Shortcuts Without Embedding". In: *Proceedings of the 2016 ACM Symposium on Principles of Distributed Computing (PODC)*. ACM. 2016, pp. 451–460.
- [13] Tin Bariša, Mihovil Bartulović, Goran Žužić, Šandor Ileš, Jadranko Matuško, and Fetah Kolonić (not in alphabetical order). "Nonlinear Predictive Control of a Tower Crane Using Reference Shaping Approach". In: *Power Electronics and Motion Control Conference and Exposition (PEMC), 2014 16th International*. IEEE. 2014, pp. 872–876.

Service**Paper review**

reviewed papers for SODA'21, FOCS'21, STOC'21, FOCS'20, PODC'20, ITCS'20, SODA'19, FOCS'19, STOC'18, SODA'18, DIST and TCS

Theory reading group

sole organizer; coordinated 13 weekly lectures at CMU

Jan–May 2018

ACM ICPC Central Europe Regional Contest (CERC), scientific committee

prepared tasks for an international programming competition

Nov 2015, 2016, and 2017

Penkala Association, organizing committee

organized retreats and activities to facilitate networking of young Croatian scientists

2017, 2018

X.FER Association, vice president

promoted competitive programming among computer science student population

2012–2013

Contest coaching and popularization

Learning to Code on the Cloud, Purdue University, May 2021 (guest lecture, online)

ACM World finals 2015 official coach of the Croatian team that won silver medal, Marocco, Jul 2015

Guest lectures at various Croatian venues (Krk informatics summer camp 2014, 2015, 2018; Krapina informatics winter camp 2016, 2020; Mutimir research retreat 2017, 2020)

Problem setter for various Croatian contests (COCI 09–11; ACM ICPC national contest 2015–2017; etc.)

App Start Contest, organizing committee

helped organized three App Start Contests, a student competition in product development

2011, 2012, 2013

Talks

Hop-Constrained Oblivious Routing

STOC 2021, invited conference talk

Jun 2021

Universally-Optimal Distributed Algorithms for Known Topologies

STOC 2021, invited conference talk

Jun 2021

Universally-Optimal Distributed Algorithms for Known Topologies

HALG 2021, contributed talk

May 2021

Low-Congestion Shortcuts are Universally Optimal for Distributed Computing

ETH Mittagseminar

Nov 2020

Robust Algorithms for the Secretary Problem

HALG 2020, contributed talk

Sep 2020

Towards Universal Optimality in Distributed Optimization

Max Planck Institute for Informatics

Jan 2020

Erasur Correction for Noisy Radio Networks

DISC 2019, invited conference talk

Oct 2019

(Near) Optimal Adaptivity Gaps for Constrained Stochastic Probing

RANDOM 2019, invited conference talk

Sep 2019

Network Coding Gaps for Multiple-Unicast Completion Time

Google Algorithms Seminar

Aug 2019

Byzantine Secretary Problem

CMU Theory Seminar

Feb 2019

Minor Excluded Network Families Admit Fast Distributed Algorithms

PODC 2018, invited conference talk

Jul 2018

Communication in Noisy Radio Networks

CMU Theory Seminar

May 2018

Distributed Computing with Shortcuts—Near Optimal on Special Graphs

CMU Theory Seminar

Oct 2016

Low-Congestion Shortcuts Without Embedding

PODC 2016, invited conference talk

2016

"Exploring the Limits of Computation" project (ELC), Tokyo, invited seminar talk

Proficiencies

Programming: C++ (experienced), Python (experienced), JavaScript (1 year startup experience), Java (3 month internship experience)

Theoretical: Randomized algorithms; Distributed graph algorithms; Optimization

Machine Learning: Tensorflow (3 month internship experience)

Languages: English (fluent), Croatian (native)