

Afrouz Jabal Ameli

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Eindhoven, Netherlands

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RESEARCH ◇ Approximation Algorithms.

INTERESTS ◇ Graph Theory.
 ◇ Algorithm Design and Analysis.
 ◇ Parameterized Complexity.
 ◇ Computational Geometry.

EDUCATION ◇ **TU/e**, Eindhoven, Netherlands (November 2021 - [Expected] June 2024)
 PostDoc (with Prof. Laura Sanità)

 ◇ **IDSIA**, Lugano, Switzerland (May 2021 - October 2021)
 PostDoc (with Prof. Fabrizio Grandoni)

 ◇ **IDSIA**, Lugano, Switzerland (April 2017- April 2021)
 PhD. in Computer Science
 Adviser: Prof. Fabrizio Grandoni
 Thesis title: Approximation Algorithm for Survivable Network Design problems.

 ◇ **Sharif University of Technology**, Tehran, Iran (September 2015 - March 2017)
 M.S. in Algorithms and Computation **GPA: 19.61/20**.
 Ranked 1st among all master students of Computer Science.
 Adviser: Prof. Mohammad Ali Aabaam
 Thesis title: Clustering Uncertain Data

 ◇ **Sharif University of Technology**, Tehran, Iran (September 2010 - July 2015)
 B.S. in Computer Engineering - Software

HONORS AND ◇ Awarded **Flowship of Exceptional Talents** by National Elite Foundation for M.Sc. Program
AWARDS (2015)

 ◇ **Bronze Medal** in the Asia Pacific Olympiad in Informatics (2010)

 ◇ **Gold Medal** in National Olympiad in Informatics (2009)

 ◇ **Bronze Medal** in National Olympiad in Mathematics (2009)

 ◇ **Ranked 5th** in national graduate entrance exam in Computer Science (2015)

 ◇ Awarded as an **Outstanding Student** by Sharif University of Technology (2010)

 ◇ Awarded **Flowship of Exceptional Talents** by National Elite Foundation for B.Sc. Program
 (2010)

PUBLICATIONS ◇ D. Hyatt Denesik, A. Jabal Ameli and L. Sanità ”**Finding Almost Tight Witness Trees**”, ICALP
2023.

 ◇ M. Calvo Bosch, F. Grandoni and A. Jabal Ameli ”**A $\frac{4}{3}$ Approximation for 2-Vertex-Connectivity**”,
ICALP 2023.

 ◇ M. Garg, F. Grandoni and A. Jabal Ameli ”**Improved Approximation for Two-Edge-Connectivity**”,
SODA 2023.

 ◇ F. Grandoni, A. Jabal Ameli and V. Traub ”**Breaching the 2-approximation Barrier for the
Forest Augmentation Problem**”, STOC 2022.

- ◇ W. Gálvez, F. Grandoni, A. Jabal Ameli and K. Khodamoradi ”**On the Demand Strip Packing problem**”, APPROX 2021.
- ◇ W. Gálvez, F. Grandoni, A. Jabal Ameli, K. Jansen, A. Khan and M. Rau, ”**A Tight $(3/2 + \epsilon)$ Approximation for Skewed Strip Packing**”, Algorithmica (Preliminary version accepted in APPROX 2020).
- ◇ J. Birka, F. Grandoni and A. Jabal Ameli, ”**Breaching 2-approximation for Connectivity Augmentation Problem**”, *To appear in* SIAM Journal of Computing (Preliminary version accepted in STOC 2019).
- ◇ W. Gálvez, F. Grandoni, A. Jabal Ameli and K. Sornat, ”**On The Cycle Augmentation Problem: Hardness and Approximation Algorithms**”, Theory of Computing systems 2021. Preliminary version accepted in WAOA 2019.
- ◇ A. Jabal Ameli and H. Zarrabi-zadeh, ”**On the Maximum Triangle Enclosure Problem**”, ICCG 2018.

SCIENTIFIC
REVIEWING
ACTIVITIES

- ◇ Journal of Discrete Applied Mathematics, Journal of Mathematical Programming, Algorithmica.
- ◇ STOC, SODA, TALG, ICALP, APPROX, ISAAC, SWAT, ORL, Fun.

WORKSHOPS
AND SCHOOLS
PARTICIPATED

- ◇ Bocconi Theory Day, January 2023, Bocconi University (Talk: ”Improved Approximation for Two-Edge-Connectivity”).
- ◇ Seminar and PhD Seminar on Combinatorics, Games and Optimisation, London School of Economic and Political Sciences (Talk: ”Improved Approximation for Two-Edge-Connectivity”).
- ◇ Combo Summer school 2023, EPFL, Lausanne, Switzerland
- ◇ Approximation and Relaxation Workshop, Bonn, Germany (Talk: ”Breaching the 2-approximation for connectivity augmentation problem”)
- ◇ HCM Seminars, Bonn, Germany, July 2021 (Talk: ”Approximation Algorithms for Connectivity Augmentation Problem”)
- ◇ AFDOCS Summer school on Algebraic Complexity Theory and Computer Algebra, August 21 - 25, 2017, Max Plank Institute, Saarbrücken, Germany.
- ◇ Highlight Of Algorithms 2020, June 2020, London School of Economic and Political Sciences.
- ◇ Highlight Of Algorithms 2018, June 2018, Vrije Universiteit (VU) Amsterdam.
- ◇ AFDOCS Summer school on Fine-Grained Complexity and Algorithms, August 13 - 17, 2018, Max Plank Institute, Saarbrücken, Germany.
- ◇ 9th Cargese Workshop on Combinatorial Optimization, August, 2018, Corse Island, France.
- ◇ Highlights Of Algorithm 2019, June 14-17, 2019, University of Copenhagen.
- ◇ AFDOCS Summer school on Games, Brains, and Distributed Computing, August 19 - 23, 2019, Max Plank Institute, Saarbrücken, Germany.

TEACHING
EXPERIENCE

- ◇ **Lecturer in TU/e:**
Graphs and Algorithms 2MMD30 (Q3 2022-2023)
- ◇ **Teaching Assistant in TU/e:**
Mathematics II (Q4 2021-2022)
- ◇ **Teaching Assistant in SUPSI:**
Approximation Algorithms 5EMA0 (Spring 2020)
Advanced Algorithms (Fall 2019)
Advanced Algorithms and Approximation Algorithms (Fall 2018)
- ◇ **Teaching Assistant in USI:**
Programming Fundamentals 1 (Fall 2019)
Algorithm and Data Structures (Fall 2018, Fall 2020)
Data Base Design (Spring 2018)

- ◇ **Teaching Assistant in Sharif university:**
 - Approximation Algorithms (Fall 2017)
 - Randomized Algorithms (Fall 2016)
 - Design and analysis of Algorithms (Spring 2015, Fall 2012)
 - Discrete Mathematics (Spring 2015)
- ◇ **Lecturer of *Graph Theory* Course in Iranian National Olympiad in Informatics Summer school (2012-2020)**
- ◇ **Teacher of *Discrete Mathematics* in Farzanegan High School, Tehran, Iran (2014-2020)**
- ◇ **Lecturer of *Discrete Mathematics* Course in Iranian National Olympiad in Informatics Summer school (2014-2015)**
- ◇ **Mentor and deputy leader of Iran's team in International Olympiad (2016)**
- ◇ **Head of Theoretical Contests Committee** of Iranian National Olympiad in Informatics.
- ◇ **Co-founder and member** of Iranian (International) Combinatorics Olympiad (ICO)¹, 2019-present.

OTHER
SCIENTIFIC
ACTIVITIES

¹ICO is an international contest with focus on combinatorial problems held in different levels, for high school students, university students and professionals in which the contestants can participate individually or in groups of size up to 3.