Afrouz Jabal Ameli

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RESEARCH INTERESTS	◇ Approximation Algorithms. ◇ 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)
Ph.D. 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: 19.40/20**.
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

RESEARCH VISITS

◇ Universit libre de Bruxelles, Brussels, May 2024.
◇ Bocconi University, Milan, April 2024.
◇ IDSIA, Lugano, April 2024.
◇ Bocconi University, Milan, December 2023.
◇ IDSIA, Lugano, November 2023.
◇ London School of Economic and Political Sciences, London, January 2023.
◇ IDSIA, Lugano, June 2022.

HONORS AND AWARDS

◇ **2023 Best ICALP Paper Award** for the paper "A 4/3 Approximation for 2-Vertex-Connectivity" with M. Bosch-Calvo and A. Jabal Ameli.
◇ Awarded **Flowship of Exceptional Talents** by National Elite Foundation for M.Sc. Program (2015)
◇ **Bronze Medal** in Asia Pacific Olympiad in Informatics (APIO 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)

⋄ **2019 Best ICCG Paper Award** for the paper "On the Maximum Enclosure Problem" with H. Zarrabi-zadeh.

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. (Submitted to TheoretiCS)

⋄ 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"**, Thoery of Computing systems 2021. Preliminary version accepted in WAOA 2019.

⋄ A. Jabal Ameli and H. Zarrabi-zadeh, **"On the Maximum Triangle Enclosure Problem"**, ICCG 2019.

SCIENTIFIC REVIEWING ACTIVITIES

⋄ Journal of Discrete Applied Mathematics, Mathematics of Operation Research, Journal of Mathematical Programming, Algorithmica, ACM Transactions on Algorithms, Journal of Theoretical Computer Science.

⋄ STOC, SODA, ICALP, IPCO, APPROX, ISAAC, STACS, SWAT, ORL, Fun.

WORKSHOPS AND SCHOOLS PARTICIPATED

⋄ ULB, May 2024, Brussels (Talk: "Approximation Algorithms for Survivable Network Design").

⋄ Bocconi University Seminar, December 2023, Milan (Talk: "A $\frac{4}{3}$-Approximation for Two-Vertex-Connectivity").

⋄ 12th Cargese-Porquerolles Workshop, September 2023, Porquerolles (Contributed Talk: "A $\frac{4}{3}$-Approximation for Two-Vertex-Connectivity").

⋄ 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, Saarbrucken, Germany.

⋄ Highlight Of Algorithms 2020, June 2020, London School of Economic and Political Sciences.

⋄ Highlight Of Algorithms 2018, June 2018, Vrije Universitei (VU) Amsterdam.

⋄ AFDOCS Summer school on Fine-Grained Complexity and Algorithms, August 13 - 17, 2018, Max Plank Institute, Saarbrucken, Germany.

⋄ 9th Cargese Workshop on Combintorial 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, Saarbrucken, Germany.

TEACHING
EXPERIENCE

⋄ **Lecturer in TU/e:**
Graphs and Algorithms 2MMD30 (Q3 2022-2023 and Q4 2023-2034)

⋄ **Instructor in TU/e:**
Mathematics II (Q4 2021-2022 and Q4 2022-2023)

⋄ **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-present)**

⋄ **Teacher** of *Discrete Mathematics* in Farzanegan High School, Tehran, Iran (2014-present)

⋄ **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)**

TECHNICAL
SKILLS

⋄ **Programming skills:** Proficient in C++, Java and Python.
⋄ Familiar with MATLAB.

OTHER
SCIENTIFIC
ACTIVITIES

⋄ **Head of Theoretical Contests Committee** of Iraninan National Olympiad in Informatics.
⋄ **Scientific head of Opedia website**[1].
⋄ **Co-founder and member** of Iranian (International) Combinatorics Olympiad (ICO)[2], 2019-present.

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[1]In Opedia we aim to provide free educational resources for students all over Iran who can't access the relative resources to prepare for Informatics Olympiad

[2]ICO 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 participates individually or in groups of size up to 3.