Attila Juhos

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Work Experience

September 2016 - December 2019

Teaching Assistant

Budapest University of Technology and Economics (BUTE), Faculty of Electrical Engineering and Informatics, Department of Computer Science and Information Theory

Courses taught:

Introduction to the Theory of Computing 1 (linear algebra, seminar)
Theory of Algorithms (seminar)
Probability Theory (seminar)

June 2018 - June 2019

Scientific Assistant

Internship and research at the Hungarian Academy of Sciences, Centre for Economic and Regional Studies: *research on matching under preferences*

Research Projects

June 2019-May 2021 — *Medical (CT) image reconstructions with distinguished interest in CNN-based regularisation and iterative techniques.* Supervisor: Dániel Hadházi (BUTE, Department of Measurement and Information Systems). Supported by the Ministry of Human Capacities under its New National Excellence Program (one year + half year).

Code-repository: `https://github.com/juhosattila/LIDCArtifactReduction`.

2018-2019 — *The stable roommates problem with special interest in approximation algorithms for finding egalitarian stable roommates. The stable marriage problem with generalised preference structures.* Supervisor: Dr. Ágnes Cseh (Hungarian Academy of Sciences, Centre for Economic and Regional Studies). Supported by the Cooperation of Excellences Grant, by the Ministry of Human Capacities under its New National Excellence Program (one year).

2017 — *Performance modelling and analysis of distributed P2P download systems.* Supervisor: Dr. János Levendovszky (BUTE Department of Networked Systems and Services)

Publication

2021 — Ágnes Cseh and Attila Juhos. Pairwise preferences in the stable marriage problem. ACM Transactions on Economics and Computation (TEAC), 9, 2021

Conferences

March 2019 — 36$^{\text{th}}$ International Symposium on Theoretical Aspects of Computer Science (STACS 2019), TU Berlin, Berlin, Germany, March 2019: *Pairwise preferences in tha stable marriage problem.* Webpage: `stacs2019.akt.tu-berlin.de`

Student Conferences

May 2021 — Scientific Conference for Students, Eötvös Lóránd University, Faculty of Informatics: *CNN-based iterative regularisation for CT image reconstructions.* Supervisor: Dániel Hadházi (BUTE, Department of Measurement and Information Systems): *Second Prize*

March 2021 — **National Scientific Conference** for Students, Eötvös Lóránd University, Faculty of Informatics: *Neural network-aided tomographic reconstructions.* Supervisor: Dániel Hadházi: *Special Prize*

May 2020 Scientific Conference for Students, Eötvös Lóránd University, Faculty of Informatics: *Neural network-aided tomographic reconstructions.* Supervisor: Dániel Hadházi: *Second Prize*

April 2019 **National Scientific Conference** for Students: *Egalitarian solutions in the stable roommates problem.* Supervisor: Dr. Ágnes Cseh (Hungarian Academy of Sciences, Centre for Economic and Regional Studies), Dr. Tamás Fleiner (BUTE Department of Computer Science and Information Theory): *Second Prize*

November 2018 Scientific Conference for Students, Budapest University of Technology and Economics, Faculty of Electrical Engineering and Informatics: *Egalitarian solutions in the stable roommates problem.* Supervisor: Dr. Ágnes Cseh, Dr. Tamás Fleiner: *First Prize*

November 2017 Scientific Conference for Students, Budapest University of Technology and Economics, Faculty of Electrical Engineering and Informatics: *Performance modelling and analysis of distributed P2P download systems.* Supervisor: Dr. János Levendovszky (BUTE Department of Networked Systems and Services): *Third Prize*

Education

2021 summer Erasmus semester at the Technical University of Munich (TU München). Topics of courses: *inverse problem theory, statistical learning theory, Bayesian and variational inference, group-equivariant NNs.*

2019-2021 *MSc studies in Computer Science, Budapest University of Technology and Economics, Faculty of Electrical Engineering and Informatics (BUTE).* National scholarship for outstanding students in tertiary education. *Diploma result: excellent with highest honours.*

2015-2018 *BSc studies in Computer Science (BUTE) .* Admitted to the advanced level study program of the faculty (IMSc). University scholarship for outstanding academic results. National scholarship for outstanding students in tertiary education. *Diploma result: excellent with highest honours.*

2011-2015 *Székely Mikó High School*, Sepsiszentgyörgy, Romania: bilingual Mathematics-Informatics program, maturita examination (average: 9.88 out of 10)

Summer schools

2018 *Prague Summer School on Discrete Mathematics.* Topics: Combinatorics of posets: Sparsity and dimension; Discrepancy theory and algorithmic applications; Polynomial method. Webpage: `pssdm.math.cas.cz`

2018 *Swedish Summer School in Computer Science.* Topics: Quantum Computing; Lattices and Cryptography. Webpage: `s3cs.eecs.kth.se`

Competitions

2021 2020/2021 BUTE Mathematics Competition: First Prize

2020 2019/2020 BUTE Mathematics Competition: Third Prize

2018 25^{th} International Mathematics Competition for University Students, Blagoevgrad, Bulgaria: Second Prize

2017/2018 BUTE Mathematics Competition: Second Prize

40^{th} Hajós György National Mathematics Competition: individual First Prize

2017 24^{th} International Mathematics Competition for University Students, Blagoevgrad, Bulgaria: Second Prize

2016/2017 BUTE Mathematics Competition: First Prize; qualification for the 24^{th} International Mathematics Competition for University Students

2016 23rd International Mathematics Competition for University Students, Blagoevgrad, Bulgaria: Third Prize

2015/2016 BUTE Mathematics Competition: First Prize; qualification for the International Mathematics Competition for University Students

38th Hajós György National Mathematics Competition: individual First Prize

2008-2015 From 2012 to 2014, I have qualified three times for the international level of the International Hungarian Mathematics Competition for High School students, where I received once First Prize and on two occasions Third Prize.

From 2008 to 2015, I have qualified each year for the national level of Romanian Mathematics Olympics, where I received Bronze medal on two occasions.

Programming Skills and Languages

Languages Advanced: Python, C++(98/11), Java, C#, JavaScript, OpenGL, WebGL, SQL

Intermediate: OpenCL, CUDA, UNIX shell scripting, Matlab

Technologies Python math and autodiff packages: TensorFlow, NumPy etc.

Foreign Languages

English Cambridge Certificate in Advanced English (C1) – advanced level of written and spoken English

German Goethe Institut B1 Sprachprüfung

Romanian Maturita examination in Romanian language and literature – advanced level of colloquial language

Budapest, 5th January 2022

Attila Juhos