Dimitrios Myrisiotis

dimyrisiotis@gmail.com
https://dimyrisiotis.github.io

Research interests

My main research interests lie around computational complexity theory, computational learning theory, and causality.

Professional experience

2021– **Research fellow in Computer Science.**
National University of Singapore (NUS),
School of Computing.
Research areas: computational complexity theory, computational learning theory, and causality.
Host: Arnab Bhattacharyya.

Education

2017–2021 **Ph.D. in Computing.**
Imperial College London,
Department of Computing.
Research area: Computational complexity theory.
Thesis: *The complexity and applications of circuit minimization.*
Advisor: Mahdi Cheraghchi.

2013–2016 **M.Sc. in Logic and the Theory of Algorithms and Computation (MPLA).**
National and Kapodistrian University of Athens (UoA),
Department of Mathematics.
GPA: 9.85 out of 10.00.
Thesis: *Quantum complexity, relativized worlds, and oracle separations.*
Advisor: Efstathios (Stathis) Zachos.
Committee: Dimitrios Fotakis, Iordanis Kerenidis, Aristeidis Pagourtzis, and Efstathios (Stathis) Zachos.

2007–2013 **B.Sc.-M.Sc. joint degree in Mechanical Engineering.**
National Technical University of Athens (NTUA),
School of Mechanical Engineering.
Thesis: *Parametric study of the gaits of a quadruped robot using Hildebrand diagrams.*
Advisor: Evangelos Papadopoulos.

Publications

Preprints

1. Eric Allender, Mahdi Cheraghchi, Dimitrios Myrisiotis, Harsha Tirumala, and Ilya Volkovich. One-way functions and a conditional variant of MKTP. Manuscript, 2021.

Journals

1. Mahdi Cheraghchi, Valentine Kabanets, Zhenjian Lu, and Dimitrios Myrisiotis. Circuit lower bounds for MCSP from local pseudorandom generators. *ACM Trans. Comput. Theory*, 12(3):21:1–21:27, 2020.

Conference papers

5. Mahdi Cheraghchi, Shuichi Hirahara, Dimitrios Myrisiotis, and Yuichi Yoshida. One-tape Turing machine and branching program lower bounds for MCSP. In Markus Bläser and Benjamin Monmege, editors, *38th International Symposium on Theoretical Aspects of Computer Science, STACS 2021, March 16-19, 2021, Saarbrücken, Germany (Virtual Conference)*, volume 187 of *LIPIcs*, pages 23:1–23:19. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2021.

4. Valentine Kabanets, Sajin Koroth, Zhenjian Lu, Dimitrios Myrisiotis, and Igor Oliveira. Algorithms and lower bounds for De Morgan formulas of low-communication leaf gates. In Shubhangi Saraf, editor, *35th Computational Complexity Conference, CCC 2020, July 28-31, 2020, Saarbrücken, Germany (Virtual Conference)*, volume 169 of *LIPIcs*, pages 15:1–15:41. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2020.

3. Mahdi Cheraghchi, Valentine Kabanets, Zhenjian Lu, and Dimitrios Myrisiotis. Circuit lower bounds for MCSP from local pseudorandom generators. In Christel Baier, Ioannis Chatzigiannakis, Paola Flocchini, and Stefano Leonardi, editors, *46th International Colloquium on Automata, Languages, and Programming, ICALP 2019, July 9-12, 2019, Patras, Greece*, volume 132 of *LIPIcs*, pages 39:1–39:14. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2019.

2. Dimitrios Myrisiotis, Ioannis Poulakakis, and Evangelos Papadopoulos. On the effects of design parameters on quadruped robot gaits. In *2015 IEEE International Conference on Robotics and Biomimetics, ROBIO 2015, Zhuhai, China, December 6-9, 2015*, pages 1072–1077. IEEE, 2015.

1. Ioannis Kontolatis, Dimitrios Myrisiotis, Iosif Paraskevas, Evangelos Papadopoulos, Guido de Croon, and Dario Izzo. Quadruped optimum gaits analysis for planetary exploration. In *13th Symposium on Advanced Space Technologies in Robotics and Automation, ASTRA 2013, Noordwijk, The Netherlands, May 15-17, 2013*. ESA, ESTEC, 2013.

Research internships

2021 Department of EECS, University of Michigan, Ann Arbor, MI, USA. Hosted by Prof. Mahdi Cheraghchi.

2020 Department of Computer Science, School of Arts and Sciences, Rutgers University, Piscataway, NJ, USA. Hosted by Prof. Eric Allender.

2020 Department of EECS, University of Michigan, Ann Arbor, MI, USA. Hosted by Prof. Mahdi Cheraghchi.

2019 National Institute of Informatics (NII), Tokyo, Japan. Hosted by Prof. Yuichi Yoshida.

2018 School of Computing Science, Simon Fraser University (SFU), Burnaby, BC, Canada. Hosted by Prof. Valentine Kabanets.

Voluntary service

2013–2014 Tutored university or highschool students in courses related to mathematics.

Awards or distinctions

2018 *Student Academic Choice Awards (SACA) Nominee*, by the Department of Computing, Imperial College London.

2016 *Highest GPA among the MPLA graduates of December 2016.*

Teaching experience

- Graduate teaching assistant at the Department of Computing, Imperial College London:
  - *Discrete Mathematics* (CO142), Autumn 2019 and Autumn 2020. Instructor: Steffen van Bakel.
  - *Complexity* (CO438), Autumn 2019 and Autumn 2020. Instructor: Iain Phillips.
  - *Algorithms II* (CO202), Autumn 2018. Instructor: Mahdi Cheraghchi.
  - *Graphs and Algorithms* (CO150), Spring 2018. Instructor: Iain Phillips.
  - *Quantum Computing* (CO484), Autumn 2017. Instructors: Mahdi Cheraghchi and Herbert Wiklicky.

Community service

- Reviewer for
  - ISIT 2018, BioRob 2018, ISIT 2019, CSR 2019, CCC 2019, ISAAC 2019, ICALP 2020, CSR 2021, FOCS 2021, STACS 2022, and Theory of Computing.
- Program Committee member of
  - UAI 2021.

Programming

Python, FORTRAN, C, MATLAB, and Maple.

Army service

2016–2017 In Greece, there is a *compulsory* nine-month military service for all male citizens. I was a member of a radar crew, in an anti-aircraft artillery unit.

References

- Eric Allender,
  Distinguished Professor;
  Rutgers, the State University of NJ,
  Department of Computer Science;
  `allender@cs.rutgers.edu`.
- Mahdi Cheraghchi,
  Assistant Professor;
  University of Michigan, Ann Arbor,
  Department of EECS;
  `mahdich@umich.edu`.
- Valentine Kabanets,
  Professor;
  Simon Fraser University,
  School of Computing Science;
  `kabanets@cs.sfu.ca`.

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