Szilágyi Dániel (Daniel Siladi)

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Education

- **IRIF, Université Paris Diderot** — Paris, France
  PhD studies, Theoretical Computer Science — *from September 2019*
  - Working on quantum machine learning under the supervision of prof. Iordanis Kerenidis
- **École normale supérieure de Lyon** — Lyon, France
  Master studies, Theoretical Computer Science — *2017 - 2019*
  - Finished the first year at the top of the class
  - Awarded the Ampère excellence scholarship for international students
  - Master thesis: "A Quantum Interior-Point Method for Second-Order Cone Programming", under the supervision of prof. Iordanis Kerenidis
- **University of Primorska** — Koper, Slovenia
  Mathematics BSc — *2014 - 2017*
  - Graduated with GPA: 10.00 (ranked 1st in the Mathematics degree program)
  - Bachelor thesis title: "Computational methods for polypeptide origami design"
- **Gimnazija Jovan Jovanović Zmaj** — Novi Sad, Serbia
  High school — *2010 - 2014*
  - Class specialized for mathematics, physics and computer science
  - GPA: 5.00/5.00
  - Final year project: *"Some applications of group theory"*

Experience

- **IRIF, Université Paris Diderot** — Paris, France
  Research Intern — *2019*
  - Second semester (M2) internship
  - Worked on a quantum interior point method for second-order conic programming, with prof. Iordanis Kerenidis
  - Paper accepted at ACM AFT 2019
- **LIP, École normale supérieure de Lyon** — Lyon, France
  Research Intern — *2018*
  - Three month summer internship (M1)
  - Worked on algorithmic aspects of quantum information theory, with prof. Omar Fawzi
  - Paper presented at IEEE ISIT 2019
- **Microsoft Development Center Serbia** — Belgrade, Serbia
  Data Science Intern — *2016*
  - Three month summer internship
  - Worked on modeling and forecasting SQL Server performance
- **ELTE Summer School of Mathematics** — Budapest, Hungary
  Participant, Discrete Algorithms and Applications — *2016*

- **Petnica Summer Institute of Machine Learning** Petnica, Serbia
  Participant *2015*
  - Machine learning summer school organized by Microsoft Development Center Serbia
  - Worked on developing a model for local business classification, using logistic regression on real-world data from the Bing search engine

- **Summer School of Science** Požega, Croatia
  Project mentor *2015*
  - Mentored a team of 3 high school students on a project where they developed a system for near real time indoor positioning using a few Bluetooth low energy beacons, and a smartphone.

- **Petnica Science Center** Petnica, Serbia
  Teaching Assistant at the Physics Seminar *2015 - present*

- **PKP project *Absorption of foreign substances in the sea*** Koper, Slovenia
  Student project organized by the University of Primorska *2015*
  - Worked as a part of a team, designing and manufacturing the housing and electronics for an underwater data-collection module

- **Petnica Science Center** Petnica, Serbia
  High School science projects *2011 - 2014*
  - Daniel Silađi, Ognjen Stanisavljević: *"Simulation of pedestrian traffic in evacuation situations"*. Mentored by Miroslav Bogdanović, and presented at the annual Petnica Autumn Conference in 2014.
  - Daniel Silađi, Kristina Silađi: *"Embedding graphs in books"*. Mentored by Stefan Mihajlović, and presented at the annual Petnica Autumn Conference in 2013.
  - Daniel Silađi: *"Simulating fluids in two dimensions"*. Presented at the annual Petnica Autumn Conference in 2012.
  - Daniel Silađi: *"Genetic Algorithms and the Travelling-Salesman Problem"*. Presented at the annual Petnica Autumn Conference in 2011.
  - All 4 papers have been or will be published in the respective conference proceedings (*Petničke Sveske*)

- **Višnjan Summer School of Science** Višnjan, Croatia
  Science/engineering project *2014*
  - Worked as a part of a team and built a fully functional remotely operated underwater vehicle
  - Programmed the data collection and motor controller modules

- **Modern Mathematics International Summer School for students** Bremen, Germany
  Mathematics summer school for high school and university students *2013*

Publications and conferences

- **Quantum algorithms for Second-Order Cone Programming and SVMs** Salt Lake City, UT, USA
  Submitted to ACM-SIAM SODA20 *2020*
  - Joint work with Iordanis Kerenidis and Anupam Prakash

- **Quantum Algorithms for Portfolio Optimization** Zurich, Switzerland
  Accepted at ACM AFT 2019 *2019*
  - Joint work with Iordanis Kerenidis and Anupam Prakash

- **Approximation algorithms for classical-quantum channel coding** Lyon, France
  Presented at IEEE ISIT 2019 *2019*
  - Joint work with Omar Fawzi, Johanna Seif

- **Construction of an orthogonal CC-set** — Koper, Slovenia
  Middle-European Conference on Applied Theoretical Computer Science (MATCOS) — *2016*
  - Joint work with Andrej Brodnik, Marko Palangetić, Vladan Jovičić
  - Published in Informatica 43, no. 1 (2019)
- **Two Tales from the Applied Combinatorial Optimization** — Budapest, Hungary
  29th Conference of the European Chapter on Combinatorial Optimization — *2016*
  - Presented as an invited talk by Andrej Brodnik
  - Joint work with Ajasja Ljubetič, Andrej Brodnik, Marko Palangetić, Roman Jerala, Vladan Jovičić

Competitions and awards

- **NASA SpaceApps challenge** — Koper, Slovenia
  Global 48h programming hackathon, organized by NASA — *2016*
  - Second place, qualified into the Central European round
  - Designed and built an end-to-end machine learning-based solution for predicting flight delays based on meteorological data
  - Joint work with Edin Husić, Marko Palangetić, Marko Prcać, Marko Rajković and Vladan Jovičić
- **Russian Open Internet Olympiad** — Koper, Slovenia
  Bronze medal in computer science — *2016*
- **ACM Central Europe Regional Contest** — Zagreb, Croatia
  Team programming competition — *2015-2016*
- **University Programming Marathon** — Slovenia
  National qualifications for the ACM regionals — *2015 - present*
  - University champion for 2015 and 2016
- **Serbian national competitions** — Serbia
  Informatics, Mathematics, Physics — *2010 - 2014*
  - Regularly competed in mathematics, physics and informatics competitions, up to the national level
  - **Informatics (Computer Science):** Serbian Olympiad in Informatics (2014 – second prize, 2012, 2011 – third prize), National Competition (2014, 2011 – second prize, 2012 – honorable mention)
  - **Mathematics:** National Competition 2012 – honorable mention
  - **Physics:** National Competition 2012 – honorable mention
- **Diplomas at the end of High School** — Novi Sad, Serbia
  Awarded at the graduation ceremony — *2014*
  - Vuk Karadžić award for 5.00/5.00 GPA
  - Special Diplomas for successfully participating mathematics, physics and computer science competitions during high school
  - Jovan Jovanović Zmaj plaque, awarded to the best student in the generation
  - Dušan Kešelj plaque, awarded to the most distinguished student in the area of informatics in the generation
- **Energija Znanja scholarship** — Serbia
  One year monthly scholarship awarded by NIS — *2013 - 2014*
- **KöMaL's informatics problem solving contest** — Budapest, Hungary
  Correspondence contest organized by KöMaL (Középiskolai Matematikai és Fizikai Lapok) — *2011 - 2013*
  - Placed on the 5th place at the end of both 2012 and 2013
  - Invited twice to the annual conference organized at Eötvös Loránd Tudományegyetem (ELTE) for the best competitors in mathematics, informatics and physics
- **Dositeja Award** — Serbia
  Awarded by the Ministry of Education for exceptional results at competitions — *2011, 2012*

Skills

- **Theoretical Computer Science and Mathematics**, in particular discrete mathematics and **graph theory**, **optimization methods**, **quantum computing**
- Working knowledge of various **programming languages**: C/C++, Python, C#, Java, Pascal, SQL, Prolog, Assembler (x86 in particular), MATLAB, Mathematica
- Strong knowledge of **data structures and algorithms**, as well as some background in **theoretical computer science**
- **Other technologies**: LaTeX, Unix administration, Git, Microsoft Office
- **Piano** – played it during elementary and higher education, obtained basic music theory knowledge
- **Karate** – blue belt (5th kyu)

Languages

- **Serbian, Hungarian:** Native
- **English:** Fluent (Cambridge CPE diploma, CEFR level C2)
- **French:** Fluent
- **Slovenian:** Fluent
- **German, Russian** Basic