Dániel Szilágyi

Computer Science PhD student

IRIF, Université de Paris
bâtiment Sophie Germain
8 Place Aurélie Nemours
Paris 75013, France
+33 (6) 20 35 48 25
dszilagyi@irif.fr
Alternate spelling: Daniel Silađi

Education

2019–present **PhD**, *Theoretical Computer Science*, IRIF, Université de Paris.
Thesis topic: "Quantum Algorithms for Optimization and Machine Learning", supervised by Iordanis Kerenidis

2017–2019 **MSc**, *Theoretical Computer Science*, École Normale Supérieure de Lyon.
Thesis topic: "A Quantum Interior-Point Method for Second-Order Cone Programming", supervised by Iordanis Kerenidis

2014–2017 **BSc**, *Mathematics*, University of Primorska, Slovenia.
Thesis topic: "Computational Methods for Polypeptide Origami Design", supervised by Andrej Brodnik

2010–2014 **High School**, *Mathematics/Physics/Computer Science*, Gimnazija Jovan Jovanović Zmaj, Novi Sad, Serbia.
Final year project: "Some Applications of Group Theory"

Experience

2019 **Research internship**, IRIF, Université de Paris.
Internship topic: "A Quantum Interior-Point Method for Second-Order Cone Programming", supervised by Iordanis Kerenidis

2018 **Research internship**, LIP, École Normale Supérieure de Lyon.
Internship topic: "Algorithmic Aspects of Quantum Shannon Theory", supervised by Omar Fawzi

2016 **Data science internship**, Microsoft Development Center, Serbia.
Worked on modeling and forecasting SQL Server performance in the Azure Cloud

2015–present **Teaching assistant**, Petnica Science Center, Serbia.
Mentoring talented high school students doing year-long research projects

2015 **Teaching assistant**, Summer School of Science (S3), Croatia.
Mentored a team of 3 high school students for a Bluetooth indoor positioning science/engineering project

2015 **Student job**, University of Primorska, Slovenia.
Worked as the embedded hardware/software specialist on the government-funded project titled "Absorbtion of foreign substances in the sea"

Publications

Andrej Brodnik, Vladan Jovičić, Marko Palangetić, and Daniel Silađi. Construction of orthogonal CC-sets. *Informatica*, 43(1), 2019.

Omar Fawzi, Johanna Seif, and Dániel Szilágyi. Approximation algorithms for classical-quantum channel coding. In *2019 IEEE International Symposium on Information Theory (ISIT)*, pages 2569–2573. IEEE, 2019.

Iordanis Kerenidis, Anupam Prakash, and Dániel Szilágyi. Quantum algorithms for portfolio optimization. In *Proceedings of the 1st ACM Conference on Advances in Financial Technologies*, pages 147–155. ACM, 2019.

Honors and awards

2017–2019 **Scholarship**, *Ampère Excellence Scholarship*.
Awarded to the best international students at ENS Lyon

2016 **Competition**, *NASA SpaceApps challenge*, Slovenia.
Won 2nd place as a team at the national round of a 48h data science hackathon

2015–2017 **Competition**, *University Programming Marathon*, Slovenia.
Three-times university champion at the national ACM ICPC qualifiers

2014–2017 **Scholarship**, *University of Primorska Excellence Scholarship*.
Awarded to the best students at the University

2013–2014 **Scholarship**, *"Energy of Knowledge" Scholarship*, Serbia.
Awarded to the most successful competition participants

2011–2014 **Award**, *Dositeja Award*, Serbia.
Awarded to the most successful competition participants

2010–2014 **Competition**, *Serbian national high school competitions*.
Successfully competed at the national level in mathematics, physics and computer science

Languages

Native Serbian, Hungarian

Fluent English, French, Slovene

Basic German, Russian

Skills

Proficient C++, Python, Julia, LaTeX, optimization methods, quantum computing, classical data structures and algorithms, machine learning

Experienced Teaching, MATLAB, Mathematica, Unix administration, Git

Skilled C#, OCaml, probability, graph theory