

Radoica Draškić

PhD student in Quantum Algorithms at Leiden University

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Experience

Quantum Algorithms Intern

Quantum Machines

📅 Jun. 2021 – Aug. 2021 📍 Tel Aviv, Israel (remote)

- Part of the Libraries team.

Julia Python QUA

Student Assistant

Quantum Inspire, QuTech

📅 May 2021 – Aug. 2021 📍 Delft, Netherlands

- Assisting in the maintenance and improvement of Quantum Inspire, a cloud-based quantum computing service.
- Simulating and benchmarking spin qubits.

Qiskit cQASM

Teaching Assistant

TU Delft

📅 Nov. 2019 – Jan. 2021 📍 Delft, Netherlands

- Fundamentals of Quantum Information (AP3421)
- Advanced Statistical Mechanics (AP3021)
- Advanced Electrodynamics (AP3071)

BSc courses:

- Introduction to Quantum Computer Science (CSE3130)
- Solid State Physics (TN2844)
- Statistical Physics (TN2624)

Teaching Assistant

Faculty of Computing, Union University

📅 Oct. 2018 – Jun. 2019 📍 Belgrade, Serbia

- Cryptography
- Design and Analysis of Algorithms

Software Engineer Intern

Microsoft Development Center Serbia

📅 Aug. 2018 – Oct. 2018 📍 Belgrade, Serbia

- Part of the Havok Physics Engine team.
- Implemented Cloth Self Collision from [this](#) paper.

C++ Game Mechanics

Hardware-Software Engineer Intern

Maxeler Technologies

📅 Apr. 2018 – Jun. 2018 📍 Belgrade, Serbia

- Worked on MaxCompiler and developed an application for analytics of compilation data.

Java Python

Education

PhD in Computer Science

LIACS, Leiden University

📅 Aug. 2021 – present 📍 Leiden, Netherlands

Part of the Applied Quantum Algorithms group.
Supervisors: Vedran Dunjko and Jordi Tura

MSc in Applied Physics

Faculty of Applied Sciences, TU Delft

📅 Sept. 2019 – Aug. 2021 📍 Delft, Netherlands

- Physics for Quantum Devices and Quantum Computing
- Casimir pre-PhD Programme
- Honours Programme

BSc in Theoretical and Experimental Physics

Faculty of Physics, University of Belgrade

📅 Oct. 2015 – Jul. 2019 📍 Belgrade, Serbia

BSc in Computer Science

Faculty of Computing, Union University

📅 Oct. 2015 – Aug. 2019 📍 Belgrade, Serbia

Honours & Awards

🎓 **TU Delft Excellence Scholarship 2019-2021**
Scholarship for MSc studies at TU Delft covering tuition fees and part of the living expenses, €25,000 per year.

🎓 **Holland Scholarship 2019-2021**
Scholarship for MSc studies at TU Delft contributing to living expenses, €5,000.

🏆 **PLANCKS 2019 - 2nd place**
International competition in theoretical physics for teams of bachelor's and master's students.

🏆 **BAPC 2019 - 17th place**
Benelux Algorithm Programming Contest

🏆 **ACM ICPC Regionals - participation**
SEERC 2016, 2017, 2018; NWERC 2019

🏆 **IPhO 2015 - Honourable mention**
International Physics Olympiad, Mumbai, India

🏆 **National Mathematics Competition**
1st place 2015, 2014, 2013; 2nd place 2012

School Projects

Quantum State Learning and Variational Quantum Eigensolver

📅 Jul. 2020 – Sep. 2020 📍 Leiden, Netherlands

- Short research project as part of a Casimir pre-PhD programme with Prof. Vedran Dunjko at Leiden University.
- Inspired by *The Learnability of Quantum States*, Aaronson, (2007), we explore the scenario of learning the ground states of known Hamiltonians using parameterized quantum circuits.

Python

Cirq

OpenFermion

Topology of a Cooper Pair Transistor

📅 Oct. 2020 – Apr. 2021 📍 Delft, Netherlands

- Master thesis research project with Prof. Anton Akhmerov (TU Delft) and Dr. Valla Fatemi (Yale).
- Exploring topological superconducting circuits, their applications and experimental realization, inspired by *Weyl Josephson Circuits*, Fatemi *et al.*, (2020), more specifically, a circuit that behaves as a current switch.

Python

Kwant

Quantum Computing with Edge Modes

📅 Apr. 2021 – Jun. 2021 📍 Delft, Netherlands

- Short research project as part of a Casimir pre-PhD programme with Prof. Eliška Greplová.
- Exploring the implementation of quantum gates on the quantum spin Hall chiral edge modes in the lattice of coplanar waveguide resonators.

Python

Summer Schools

Petnica Summer Institute of Machine Learning

📅 August 3rd - 13th, 2019 📍 Petnica, Serbia

- Project on Meta Reinforcement Learning.
psiml.petnica.rs/

Math and Physics Camps

📅 2013 - 2015 📍 Serbia

- Prepared elementary and high school students for competitions in Mathematics and Physics.
- Devised and graded mock competitions and homework.

Relevant Courses

- Fundamentals of Quantum Information (AP3421)
- Quantum Communication and Cryptography (CS4090)
- Quantum Hardware (AP3292)
- Electronics for Quantum Computation (EE4575)
- Quantum Transport (AP3281)
- Modelling of Superconducting Devices (AP3472)

Skills

Python

Julia

C/C++

Java

Qiskit

Cirq

PennyLane

OpenFermion

TensorFlow

Kwant