Yorgos Sotiropoulos

Quantum Software Developer · Quantum Computing Scientist

Rotterdam, the Netherlands

(+31) 626780183 | strpls.g@gmail.com | www.yorgos.xyz | yorgossot | yorgossot | ystrpls

Experience

Entropica Labs

Singapore (Remotely)

Fault-Tolerant Quantum Computing Developer

Nov. 2022 - Present

- Software development for fault-tolerant quantum computing purposes.
- Keeping track of scientific literature of QEC.

Entropica Labs

Singapore

Fault-Tolerant Quantum Computing Intern

Jul. 2022 - Sep. 2022

- Software development for fault-tolerant quantum computing purposes.

Education

Applied Sciences Faculty, TU Delft

Delft, the Netherlands

MSc in Applied Physics

Sep. 2020 - Sep. 2022

- Physics for Quantum Devices and Quantum Computing Track
- Honours Programme
- GPA: 8.77

Physics Department, University of Patras

Patras, Greece

BSc in Physics

Sep. 2015 - Sep. 2019

- Theoretical Computational Physics and Astrophysics Track
- GPA: 8.8

Research Projects

Q.E.C. on distributed architectures using integrated photonic entanglement protocol

Delft, the Netherlands

MSc Thesis @ Borregaard Group, part of Fujitsu-QuTech collaboration project

Jun. 2021 - May. 2022

Supervisors: Johannes Borregaard , David Elkouss **Links**: [Report]

- Expansion of already existing protocol of atoms-in-a-cavity entangling gate with integrated error detection to fiber-cavity networks.
- Development of a versatile python framework to obtain analytical expressions of the entangling gate.
- Benchmarking of the performance in comparison to emission based schemes.

Surface Code Decoding under Correlated Noise

Singapore

Research project for Honor's Programme @ Yale-NUS College, CQT (remotely)

Jun. 2021 - May. 2022

Supervisor: Ng Hui Khoon **Links**: [Report]

- Modelling of correlated noise models for Fault-Tolerant Surface Code simulations.
- Modifying standard weights of Minimum Weight Perfect Matching algorithm to improve decoding performance.

Honors & Awards

2020-2022	**MSc Scholarship**, "Onassis" Foundation	*Greece*
2021	**Award of excellence in Physics Department 2019**, State Scholarships Foundation (IKY)	*Athens, Greece*
2020	**Award of excellence in Physics Department**, University of Patras	*Patras, Greece*
2015-2019	**BSc Scholarship**, "Mentzelopoulos Andreas" Foundation	*Patras, Greece*
2015	**Award of excellence in Panhellenic Exams**, Eurobank	*Greece*

Courses and Small-Scale Projects

Two-Qubit Quantum Process Tomography

TU Delft

Course: Quantum Information Project **Supervisor**: Leonardo Di Carlo **Links**: [Report]

Nov. 2020- Jan. 2021

Regularisation in QCBM-based generative models *Leiden University*

Course : Applied Quantum Algorithms **Instructors**: Vedran Dunjko, Jordi Tura **Links** : [Report] *May. 2021*

Simulations of Lennard-Jones gas and Ising model Monte-Carlo using Python *TU Delft*

Course : Computational Physics **Instructor**: Michael Wimmer **Links** : [Report L-J] [Report Ising] *Jan. 2021 - Jun. 2021*

Quantum Key Distribution protocols and eavesdropping schemes *University of Patras*

Course : BSc Thesis **Supervisor**: Charis Anastopoulos **Links** : [Report] (in Greek) *Jun. 2019 - Sep. 2019*

Extras

Software Python, C++, Q#, Mathematica, MatLab, LaTeX, Ubuntu, Git

Interests Quantum Computing, Quantum Error Correction, Quantum Optics, Fault Tolerance, Quantum Algorithms, Simulation

Teaching Experience - Volunteering

Drasi PTDE, Student Volunteering Group *Patras, Greece*

Physics and Mathematics teacher *2017 - 2018*

- Teaching Physics and Mathematics to high school students of “Skagiopouleio” Childcare Center