Yorgos Sotiropoulos

QUANTUM SOFTWARE DEVELOPER · QUANTUM COMPUTING SCIENTIST

Singapore

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Education

Applied Sciences Faculty, TU Delft   *Delft, the Netherlands*

MSc IN APPLIED PHYSICS   *Sep. 2020 - Present*

- Physics for Quantum Devices and Quantum Computing Track
- Honours Programme
- Current GPA: 8.9

Physics Department, University of Patras   *Patras, Greece*

BSc IN PHYSICS   *Sep. 2015 - Sep. 2019*

- Theoretical Computational Physics and Astrophysics Track
- GPA: 8.8

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*

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.

Experience

Entropica Labs   *Singapore*

FAULT-TOLERANT QUANTUM COMPUTING INTERN   *Jul. 2022 - Present*

- Software development for fault-tolerant quantum computing purposes.

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

Course : BSc Thesis   Supervisor: Charis Anastopoulos   Links : [Report] (in Greek)

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