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# Simon Roy

GPA : 4.15/4.3

**Languages: French, English, German initiate**

## Training

**Bachelor of Software Engineering** **2021 -2024**
**Electrical engineering study** **2020-2021**
École de technologie supérieure (ÉTS), Montréal, QC

**Diplôme d'études collégiales en technologie de l'électronique** **2020**
*Specialization in computers and networks*
CEGEP de Lanaudière à Joliette, QC

## Special knowledge

**Programming languages :** Python, R, Java, C, C++, C#, JavaScript, HTML, CSS, MATLAB
**Software :** Visual Studio Code, Eclipse, Android Studio, Microsoft Office, Unity, Packet Tracer, Wireshark
**Computers :** Windows (home, server 2019), Linux, VMWare
**Other :** Qiskit, Pennylane, Tensorflow, Pulser, React, Django, Git, Pytorch, OpenCV, Node.js, ROS & ROS2, PostgreSQL

## Professional experience

**Lab assistant (Quantum Computing)** **SUMMER 2023**
MTI882B : Algorithmic aspects of quantum computing, ÉTS

- Creation of learning resources (Notebook)
- Teaching Pennylane and various algorithms

**Planetary robotics intern** **SINCE 2022**
Canadian space agency (CSA), Montréal

- Management of a lunar map server and a database
- Development of a mission planning application (Django + React)
- Project management

**Software Development Intern** **FALL 2021**
Orolia, Montréal (Safran)

- Processing and generation of satellite signals.
- MATLAB, Python and C++ programming.
- Using the Agile method.

**Circuit design intern** **WINTER 2021**
Lion électrique, Saint-Jérôme

- Circuit simulation and debugging.
- Program and analyze microcontrollers

## Student club

**Founder & Team lead** **SINCE H2023**

QuantumÉTS, ÉTS, Montréal

**Mission:** *A club exploring quantum computing through projects, workshops, and hackathons utilizing advanced technologies and promoting collaborative learning.*

- Administrative management
- Student workshop (Qiskit, Pennylane, Pulser)
- Hackathons (QHack, reGenerative, BIG Quantum Hackathon, …)
- Various project (Quantum Synthesizer, Solar vehicle optimizer)

**Software developer** **SINCE A2022**

CAPRA, ÉTS, Montréal

**Mission :** *Design and manufacturing of a search and rescue robot in rugged environments.*

- Creation of a container system
- Implementation of a mapping and navigation system (ROS)

## Personal projects and distinctions

**Projects**

- Quantum SVM to classify text (Qiskit, python)
- Trading bot (Tensorflow, django)
- QAOA optimizer for solar vehicle (Qiskit, python, Hamiltonian)
- Quantum educational game (Godot)
- IOT server (Python, Django, stack, IOT, Over the air)
- Solving games using NEAT AI (Python, pygame)
- Solar Bike and BLDC Motor Controller (Circuit Design, µC, C Interrupt)

**Achievements**

- Certified Associate Developer - Quantum Computation using Qiskit v0.2X 2023
- Qiskit Global Summer School 2023 - Quantum Excellence 2023
- Best in class in search and rescue, EnRicH 2023
- 25/726 place in the QHack23 coding challenge 2023
- 3rd place at the BIG quantum Hackathon (technical part) 2022
- TensorFlow Developer Certificate 2022
- IBM Quantum Challenge Fall 2022 Achievement – Advanced 2022
- Qiskit Global Summer School 2022 - Quantum Excellence 2022
- First place in NASA Space Apps Challenge (local, Halifax) 2020