Rochisha Agarwal

Website: rochisha0.github.io
Email: rochisha.agarwal2302@gmail.com
LinkedIn: rochisha-agarwal-1b3aa118b
GitHub: github.com/rochisha0

EDUCATION

Indian Institute of Technology (IIT), Roorkee Roorkee, India
Integrated Masters in Physics 2018–2023

EXPERIENCE

Middlesex University, London London, UK
Undergraduate Research Summer 2020

- Worked on Quantum Computing Algorithms for Finance with Prof. Nagarajan, which involved initially a literature survey of all the available algorithms in the Finance domain on Portfolio optimization.
- Created an algorithm for 'Stock Picking' with PennyLane and Qiskit single-handedly from scratch using Variational Quantum Eigensolver (VQE).

Cloobot Techlabs Chennai, India
Data Science Intern Summer 2020

- Worked on a Machine Learning Project, for identifying keywords in the set of mails using NLP and the CRF model.
- Single-handedly created automated reports in Python for the product Resource Productivity Management.

IIT Roorkee Roorkee, India
Undergraduate Research July 2020- August 2020

- Worked with Prof. Sugata Gangopadhyay to build a course for Quantum Computing for non Physics students.
- Wrote chapters 'Introduction to Qubits', 'Measurement of Qubits', and 'Single Qubit Gates' for the course on LaTeX with integrated visualizations and code.

Qiskit Global Summer School Virtual
Attendee July 2020

- The school focused on teaching broad range of topics- Grover's Search, Shor's Algorithms, Transmon Qubits, Quantum Chemistry and their implementation.
- Completed the final project that involved simulating LiH molecule using VQE.

SKILLS

- **Languages:** Python, C++, MATLAB, Javascript (Vue, React, Angular)
- **Packages:** Django, Pandas, Scikit-learn, Qiskit, Pennylane, Cirq, LaTeX
- **Relevant Courses:** Quantum Mechanics, Quantum Computing, Linear Algebra, Data Structures and Algorithms, Ordinary Differential Equation, Analog and Digital Electronics, Machine Learning (online)
- **Utilities:** Git, Linux Shell

Projects

- Variational Quantum Classification—(Qiskit, 2020)
  Short project on classifying breast cancer dataset using Variational Quantum Classification.

Achievements

- Was selected as Qiskit Advocate by IBMQ. 2020–Present
- Elligible for INSPIRE scholarship 2019

Volunteer Experience and Leadership

- Qiskit Challenge India (Quantum Machine Learning) — Mentor September 2020
  Mentored 500+ participants on the challenge for creating a Variational Quantum Classifier to classify 0 and 1 digit.
- Watch out! IIT Roorkee — Editor 2018 –Present
  Worked on several editorials and news pieces in this official student media body. Inform the student populous of the campus about the happenings through articles and videos.
- NSS, IIT Roorkee — Event Manager 2018–2019
  Organized Blood Donation Camp and National Social Summit under National Service Scheme.
- TEDxIITRoorkee — Manager Fall 2019
  Promoted and managed an event which saw the participation of 250 people and six eminent speakers.