

# Statement of Interest

**Asish Kumar Mandoi**

*Junior Undergraduate, Electrical Engineering*

*Indian Institute of Technology Kanpur*

+91 8144106507

luckyasish13@gmail.com

Quantum Computing has been an object of fascination for me since I joined IIT Kanpur as an undergraduate in 2019 when a few of my seniors I know were either doing projects or pursuing Master's degrees in the subject. Being someone who highly values doing things that we are passionate about, I have been following news related to QC and exploring the field, which keeps growing my excitement.

I “officially” started working on QC when I did a course on it in my second year. After getting great motivation from the course, I tried my hands on Qiskit in small projects, got a good understanding of popular quantum algorithms, participated in challenges, joined communities, and connected with people interested in the field. I was one of about 40 out of 1000+ applicants to get selected for the Quantum Computing Mentorship Program by Quantum Open Source Foundation [\[1\]](#). My solution [\[2\]](#) to one of the selection tasks was considered one of the best solutions. Currently, I'm working on developing quantum (annealing as well as circuit-based) algorithms to efficiently solve the Vehicle Routing Problem under Dr. Vesselin G. Gueorguiev's mentorship. I have also given a few presentations to our mentor as well as other guests. One of my presentations [\[3\]](#) caught Paweł Gora's [\[4\]](#) attention, who is known to have done significant research on the Vehicle Routing Problem and Traffic Flow Optimization. He found some of my work interesting and let me collaborate with him.

Apart from my work in QC, I have over two years of programming experience. I have also worked on software development projects. My familiarity with various technologies and frameworks and my ability to research topics I'm familiar with or unfamiliar with help me learn new things quicker. I frequently attend meetups and community talks on QC, and I'm quite enthusiastic about collaborating and working in a team.

My fields of interest include Quantum Cryptography, Quantum Error Correction, Quantum Communication, and Software Development. I'm interested in working on Quantum Computing applications related to optimization problems, but I'm flexible about exploring other areas as well. I'm also open to diving deeper into the theoretical/research-oriented aspects as well as the software aspects. I would be honored to work under the supervision of one among - Thomas R. Bromley, Josh Izaac, Nathan Killoran, Juan Miguel Arrazola, Krishnakumar Sabapathy, J. Eli Bourassa, Ilan Tzitrin, Filippo Miatto.

I think it's a great time to work on and be a part of QC, so I wish to expand my skill set in this domain. An internship with Xanadu's Residency Program would indeed be of great value to me for building my career in the field of Quantum Computing.