

ASHMIT GUPTA

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Education

National Institute of Technology Hamirpur

Bachelor of Technology in Engineering Physics

Dec. 2021 – July 2025

Hamirpur, Himachal Pradesh

Technical Skills

Languages: C++, JavaScript, TypeScript, Python

Technologies/Frameworks: ReactJs, ExpressJs, Storybook, Qiskit, PennyLane, Classiq, PyTorch, Numpy, Matplotlib

Domains: Data Structures and Algorithms, Full Stack Web Development, Quantum Computing, Community Management

Experience

Google Summer of Code 2024

Open Source Mentorship Program

May 2024 - Present

AsyncAPI Initiative

- Developing a UI Kit for the AsyncAPI website using Storybook in Next.js and Typescript.

Open Source Contributor at the AsyncAPI Initiative

Web Developer and Technical Steering Committee Member

Oct. 2023 - Present

AsyncAPI Initiative

- I am a member of the AsyncAPI Technical Steering Committee which is responsible for the oversight of the AsyncAPI Initiative.
- Migrated the AsyncAPI Website from JavaScript to TypeScript + Next.js.
- Migrated the Modelina website codebase from class-based react components to functional components.
- Developed Modelina Playground to enable visitors to try Modelina itself on the website without configuring something in the local environment.

Quantum Computing Intern

Internship

January 2024 - Present

Creed & Bear

- Working on quantum computing research and software projects.
- Currently developing software for portfolio optimization using quantum computing.
- Researched and wrote a review paper on the Effect of Quantum Computing on Blockchain.
- Worked on the Optimization of the Power Distribution Network at the three-month TCS Quantum Challenge 2023.

Quantum Games Hackathon 2023

Participant

October 2023

Quantum AI Foundation

- Developed QuantaVania, a 2D action-adventure platformer quantum game facilitating Quantum Computing learning.
- Winner of the Special Prize for Sanrto/Onyx Category for demonstrating Logistics optimization using QUBO in our game.

Quantum Software Developer Trainee

QCourse551 Mentorship Program with Classiq

October 2023 - January 2024

QWorld

- Developing a hybrid network with classical and quantum layers to classify the MNIST dataset.
- Maintaining a weekly blog post about the project journey at <https://jaisarita.hashnode.dev/>.

Qiskit Advocate

Developer Advocate

August 2023 - Present

Qiskit

- Resolved Bugs in Qiskit Braket Provider and Qiskit Textbook.
- Achieved certification as IBM Certified Associate Developer - Quantum Computation using Qiskit v0.2X

Microsoft Learn Student Ambassador

Beta Microsoft Learn Student Ambassador

October 2022 – Present

Hamirpur

- Completed the Technical Onboarding Process and learned about Git, GitHub, and Static Web Apps.
- Reached Alpha Milestone by completing Microsoft Learn Learning Path on Quantum Computing.
- Conducted a Microsoft Student Ambassadors Azure AI Challenge at my department with 24 attendees.

QIntern 2023

July 2023 - August 2023

Research Intern

QWorld

- Optimized logistics using quantum computing.
- Solved Vehicle Routing Problem using VQE, Surrogate Optimization, and their variants.

11th NYUAD International Hackathon For Social Good

April 2023

Participant

New York University Abu Dhabi

- Attended workshops on QBronze and QSilver.
- Built an application to use Quantum Computing for Simulating Molecular Engineering for Fertilizer Design.

Projects

Portfolio Website | Figma, React, Typescript, Three.js, TailwindCSS, EmailJS, GraphQL, HyGraph July - August 2023

- Developed a portfolio website for myself having features to write blogs, and showcase my projects, experiences, and resume in an interactive way using 3D components.

AskItOut: Doubt Sharing Website for Educational Institutions | Figma, React, Express.js Feb - May 2023

- Designed and developed a website for college students to ask and get answers to their doubts from experienced seniors.
- Code and detailed description available at <https://github.com/devilkiller-ag/AskItOut>.

QCrop | Qiskit, React, Python April 2023

- An application to use Quantum Computing for Simulating Molecular Engineering for Fertilizer Design.
- Used Variational Quantum Eigensolver and Error Mitigation Techniques to calculate Energy Landscape of different molecules

Quantum Breakout | Pygame, Qiskit, Python March 2023

- Created a Quantum version of the classical Breakout Game to facilitate easy learning of Qubit Manipulation using various Quantum Gates.

Explore All Projects

- Visit <https://ashmit.dev/archives> to explore all my projects in detail.

Leadership / Volunteering

Physteo - The Physics Society

Oct. 2022 – Present

Founder and President

NIT Hamirpur

- Founded the Physics Society of the National Institute of Technology Hamirpur under the Department of Physics and Photonics Science.
- Organizing National Physics Conference 2024 to bring top representatives of Industry and Academia working in the different fields of Physics to one platform and guide the students.
- Leading and managing the team of 60 individuals to promote our department in the industry world and guide our students.

Training and Placement Office

August 2023 – September 2024

Training and Placement Representative (TPR)

NIT Hamirpur

- Currently serving as a Core TPR managing industry and institute interaction and database.
- Served as Junior TPR during my pre-final year undergraduate studies from August 2023 - April 2024. I helped pre-final year students to grab internships by bringing and coordinating with various companies.

Team Abraxas

Dec. 2022 – Present

Executive Volunteer and Pre-final year Volunteer

Nimbus 2023 and Nimbus 2024

- Conducted a workshop on the Introduction to Quantum Computing, instructing 100+ students about the basics and career opportunities.
- Developed a 2-D game, Quantum Breakout, to simplify learning Quantum Gates.
- Leading and guiding freshmen and sophomore volunteers.

Society for Promotion of Electronics Culture

Dec. 2021 – Jan. 2023

Executive Volunteer

NIT Hamirpur

- Organized Electrothon 4.0, a global online hackathon with 2000+ participants.
- Created content for social media posts, emails, and speeches for various society events.
- Organized and hosted workshops to give attendees an insight into the engineering industry.