Rajlaxmi Bhoite

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Website
rajlaxmii4
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Education

Indian Institute of Science Education and Research — Tirupati, India
BS MS in Physics with minor courses in mathematics — 2019–2024

Bharati Vidyapeeth Secondary and Sr.Secondary School — Pune, India
Grade 12 (92.8 percent) | Grade 10 (10 CGPA) — 2008–2019

Experience

Université Paris-Saclay, CEA — Paris, France
Research Engineer — November 2024-Present

- Electron Beam Lithography · Reactive Ion Etching · Metalization · Cryogenics · Optical Photolithography · IR Imaging

Karlsruhe Institute of Technology (KIT) — Remote
Aspiring Student at Prof. Alexey Ustinov Group — July 2024-October 2024

- Calculating Parametric Gain and Intermodulation Gain for a Josephson Parametric Amplifier · Python

RWTH Aachen University — Aachen, Germany
Visiting Master's Student at Prof. Christoph Stampfer Group — August 2023-April 2024

- Hybrid quantum systems: Bilayer Graphene Quantum Dots and Superconductors. Fabrication in Clean Room · Raman spectroscopy · Atomic force microscopy · Data analysis of transport measurements · Scientific writing · Designing a cooper pair splitter | Softwares: Gwyddion · Klayout · Corel Draw · VS code · Adobe Illustrator

Tata Institute of Fundamental Research (TIFR) — Mumbai, India
Vigyan Vidushi Student — June 2023-July 2023

- Selected as one of the 40 women students pursuing Physics across India in 2023
  Designed a voltage divider · Worked on Black box experiment · Performed experiments on capillary waves and gravity waves · Designed a Michelson interferometer with given material · Visits to eminent research institutes

Indian Institute of Science Education and Research (IISER) — Tirupati, India
Project Student at Organic Optoelectronics Lab : Prof. Kanagasekaran T — January 2023-April 2023

- **Title :** Effect of Dielectric Layer Thickness on Rubrene Based Phototransistors
  Studying Photodetection and Transfer/Output characteristics of Rubrene-based OFETs using a probe station and solar simulator. Using a thermal evaporator · Spin Coater · Annealing in Glovebox ·Lamination · Parametric Analyser
  Dielectric : PMMA and PS | Organic Crystal : Rubrene

Indian Institute of Science (IISC) — Bengaluru, India
Summer Project Intern at Quantum Transport Lab : Prof. Anindya Das — Summer 2022

- Fabrication of Monolayer/Bilayer/Twisted bilayer graphene hBN quantum nanodevices using a transfer system · Preparation of PC/PPC films and PDMS Stamps

Qkrishi — New Delhi, India
Summer School Student — Summer 2022

- Learning about basics of Quantum Computing: No-Go theorems · Quantum Gates and circuits · Oracle and phase-kickback · Deutsch-Jozsa algorithm · Grover's algorithm

Projects

- **SQUIDs** Studying the design and working of DC and RF SQUIDs
- **Entanglement Entropy** Term Paper for Quantum Mechanics 2
- **Meet Quant, my Chatbot on IBM Watson AI** Designed a chat bot using IBM Watson
- **Application Development** Developed an android app called Listmaker using Android Studio

Skills

- **Programming Skills :** Python · Fortran · Java · LaTeX· HTML · CSS
- **Laboratory Coursework:**
  - **Electronics :** Regulated DC Power Supply · Voltage to current converter · Voltage comparator · NAND as Universal gate · Astable and Monostable multi-vibrators · Wien bridge oscillator · Mathematical Operations of OP-Amp
  - **Optics :** Laser Characteristics · Fabry-Perot Interferometer · Ultrasonic Diffraction · Brewster's Angle and Malus Law · Polarization by quarter and half wave plate · Fibre Optics · Kerr Effect · Reflection · Transmission and refraction of microwaves · Faraday Rotation · Magnetostriction with Michelson Interferometer
  - **Advanced Physics Lab:** Zeeman Effect · Peltier Effect · Hall Effect · Four Probe Set up, Seebeck Effect · ESR at DPPH · Constant Deviation Spectrometer · Earth Magnetic's Field · Quincke's Method · STM · XRD: Bragg's Law/Compton Effect/Moseley's Law · Speed of Light by Foucault method · Mach Zehnder Interferometer and Quantum Eraser · Inverted Fluorescence Microscopy · One photon at a time (Two Slit Interference).
- **Miscellaneous :** Mathematica · Excel · Origin · **Matlab** · **Machine Learning** · **Deep Learning** · **Git**

Conferences and Publications

1. Benchmarking Quantum Algorithms on Xanadu, IBM, and Google Quantum Computers *2022 International Conference on Trends in Quantum Computing and Emerging Business Technologies (TQCEBT) at Christ University*
2. MS Thesis Towards Hybrid Qubits in Bilayer Graphene Quantum Dots
3. University of Texas at Austin *33rd IUPAP Conference on Computational Physics*

Scholarships/Awards and scores

- Academic scholarship (Bharati Vidyapeeth, Pune) 2008–2019
- Centor Sector Scholarship during Undergraduate INR 10,000 2019
- Pune Corporation Scholarship INR 25,000 and INR 15,000 2017–2019
- Lab Honararium of INR 20,000 for research internship at IISC 2022
- Funding of INR 7670 from Qkrishi for IEEE conference 2022
- Qualified Stage 1 National Graduate Physics Examination (NGPE) 2021
- TOEFL iBT - 109/120 2024

Academic References

- Prof. Dr. Christoph Stampfer/ Dr. Samuel Moeller | RWTH Aachen University | stampfer@physik.rwth-aachen.de / samumoe@gmail.com
- Prof. Dr. Anindya Das | IISC India | anindya@iisc.ac.in