

Sirswa Kuldeep Shree Ram

PERSONAL DATA

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Note: Please click on [hyperlinks](#) for addition details

RESEARCH INTERESTS

Machine Learning, Deep Learning, Large Language Model (LLM), Electron Spin Resonance, Quantum Informatics, Entanglement, Quantum Machine Learning.

EDUCATION

2019-PRESENT	Integrated B.S.-M.S. DEPARTMENT OF PHYSICS, Indian Institute of Science Education and Research (IISER), Kolkata. Major: Physics Minor: Computational and Data Sciences GPA: 8.24/10
MAY 2018	Intermediate in SCIENCE, Mukesh Kumar Memo Senior Secondary School, Sikar. Board of Secondary Education(BSER), Ajmer. PERCENTAGE: 86 (430/500)
JUNE 2016	Matriculation, Mukesh Kumar Memo Senior Secondary School, Sikar. Board of Secondary Education(BSER), Ajmer. PERCENTAGE: 87.33 (524/600)

WORK EXPERIENCE

AUTUMN 2023- ONGOING	MASTERS' THESIS Institute: INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER), KOLKATA Advisor: PROF. SUSHIL MISRA Research Topic: Quantum Computing and Information Processing in view of Electron Paramagnetic Resonance Spectroscopy.
AUTUMN 2023- Ongoing	Independent Study Institute: INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER), KOLKATA Advisor: PROF. KRIPABANDHU GHOSH Research Topic: Analysing court judgement criticism on English Youtube posts.
SUMMER 2023- 12/05-04/08	MITACS 2023 Globalink Research Internship Institute: CONCORDIA UNIVERSITY, MONTRÉAL, QC Advisor: PROF. CHIRANJIB MITRA Research Topic: Quantum Computing in view of Electron Spin Resonance Spectroscopy.
2022- ONGOING	Member of Quantum Condensed Matter Lab Institute: IISER KOLKATA Advisor: PROF. CHIRANJIB MITRA Research Topic: 1. Automation of Variac using Stepper motor and Arduino 2. Development of a Pulsed Electron Spin Resonance Spectrometer. 3. Going to start Quantum State Transfer Between NV Center.
SUMMER 2020 05/06-06/08	Summer Internship, 2020 Institute: IISER KOLKATA Advisor: PROF. PRASANTA K. PANIGRAHI Research Topic: Splitting and Acquiring Quantum Information with Perfect W states based on Weak Cross-Kerr Nonlinearities. CERTIFICATE

SUMMER 2022 01/06-05/07	Summer School on Quantum Information and Quantum Technology - 2022 Institute: IISER KOLKATA Convener: PROF. PRASANTA K. PANIGRAHI Topics Covered: Quantum Sensing and Metrology, Quantum Communication, Quantum Computation, Quantum Foundation, Quantum Optics, Quantum Algorithm. CERTIFICATE
SUMMER 2021 12/07-23/07	Qiskit Global Summer School, 2021 (Quantum Machine Learning) Institute: IBM QUANTUM/QISKIT Instructors: AMARIA ABBAS , ZLATKO MINEV AND TEAM Worked Topics: Quantum Algorithms, Noise, Basic Classical Machine Learning, Kernels, Basic Quantum Machine Learning, etc. CERTIFICATE PARTICIPATION CERTIFICATE
SUMMER 2021 24/07-06/08	QWorld Summer School, 2021 Institute: QWORLD ASSOCIATION Instructors: ÖZLEM SALEHI KÖKEN AND TEAM Worked Topics: QBRONZE: Quantum operators, Entanglement and superdense coding, quantum teleportation, and Grover's Search. QSILVER: Bloch Sphere, Quantum Fourier Transform, Quantum phase estimation, order finding algorithm, and Shor's Algorithm. Diploma: BRONZE-QISKIT and QSLIVER
SUMMER 2022 27/06-01/07	Quantum Thermodynamics Conference 2022 Institute: QUEEN'S UNIVERSITY BELFAST, NORTHERN IRELAND Invited Speakers: Alvaro Alhambra, Armen Allahverdyan, Vladan Vuletic, Nicole Yunger Halpern and more. CERTIFICATE
SUMMER 2021 10/06-07/07	SSERD Internship Batch 10, 2021 (TEAM PLEADIES) Institute: SOCIETY FOR SPACE EDUCATION, RESEARCH AND DEVELOPMENT Advisor: SUJAY SHEEDHAR, MAHESH P, AND TEAM Internal Guide: DR. SUNDAR MN Research Topic: Exploring the Relationship between Galaxies and their Super massive Black holes ($M_{bh} - \sigma$ relation and $M_b - M_{bh}$ relation). CERTIFICATE REPORT
SUMMER 2022 01/07-08/07	Astrophysics Summer School, 2022 Institute: INDIAN INSTITUTE OF ASTROPHYSICS Worked Topics: Solar Physics, ISM, IGM, GR and Cosmology, Exoplanets, Dark Matter and Dark Energy. CERTIFICATE
AUTUMN 2019	RAD@home citizen-science research Advisor: PROF. ANANDA HOTA (University of Mumbai-Department of Atomic Energy, Centre for Excellence in Basic Sciences) Analyzed galaxy images at different wavelengths using the NASA sky view platform.

TECHNICAL SKILLS

Operating System:	Windows, Linux (Ubuntu)
General Programming:	Python, C, MATLAB, \LaTeX
Other Tools:	Quantum-Computing (Qiskit), MS-Office, INKSCAPE, Git, HTML/CSS/JS, Arduino
Related Concepts:	Natural Language Processing, Problem Solving (AI-Search Methods), Machine Learning

PROFESSIONAL DEVELOPEMENT

Completed MOOCs on **Electrodynamics: From Introduction to In-depth Solutions** by KAIST Korea, **Big Bang to Dark Energy** by University of Tokyo, **Black Holes** by University of Alberta ([ALL CERTIFICATES](#)).

Hired by "Chegg" to be a Tutor/Expert in Physics.

CERTIFICATES AND ACHIEVEMENTS

Got 2nd position ([Team CANOPUS](#)) in Indian Young Physicists League (IYPL) 2022 by Association of Indian Physics Students (AIPS)

Participated and Cleared **IBM Quantum Spring Challenge 2022** (Advanced level) organized by [QISKIT](#) ([BADGE](#))

Participated in [QWORLD QUANTUM SCIENCE DAYS \(JUNE 1-3, 2022\)](#) ([CERTIFICATE](#))

Invited to [NOBEL PRIZE PHYSICS TALK](#) by [WOMANIUM | QUANTUM](#)

Participated in [Open Source Day, ANITAB.ORG](#) (15th July, 2021) ([CERTIFICATE](#))

Participated in [MATLAB Master Class](#) ([CERTIFICATE](#))

Got 147th position in State Talent Search Examination, sponsored by Prince Academy, Sikar

Got 38th position in National Mathematics Competition, sponsored by Dreamworld

INTERESTS AND ACTIVITIES

Literature:	Fiction, Mysteries, Self-Help Book
Games:	Khokho, Badminton, Basketball
Other Interests:	Gyming, YOGA and Karate Trekking and Mountaineering
Past-time:	Coding, Stock Market/Crypto Predictions
Languages:	English, Hindi, Gujarati, Rajasthani
Activities:	Member of Students' Hostel Committee (SHC) at IISER Kolkata from Aug 2019 to July 2020 Convenor of Trekking and Adventure Club at IISER Kolkata from July 2020 to Aug 2022 Member of Ek Pahel: An Initiative for Free Education at IISER Kolkata at present
Leadership Experience:	Member of organizing team of the "Ekpehal Anniversary 2020" event at IISER Kolkata for 350+ spectators Member of organizing team of the "9th Convocation 2022" event at IISER Kolkata for 400+ spectators