Soumyadeep Paul

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EDUCATION

Tata Institute of Fundamental Research 2024 – Present
Integrated PhD in Computer Science
Medium of instruction: English

Chennai Mathematical Institute 2021 – 2024
BSc (Honours) in Mathematics and Computer Science
Medium of instruction: English

DAV Public School, Haldia 2019 - 2021
Senior School Certificate Examination - 93.4%

St. Xavier's School, Haldia 2008- 2019
Secondary School Examination - 94.2%

INTERNSHIPS

Distributed Computing - Summer Internship May 2024 - ongoing
Understanding the limits of local decision
Supervision: Prof. Prof. Ami Paz, LISN lab (Paris-Saclay University) and Prof. Laurent Feuilloley, LIRIS (Université de Lyon).

Additive Combinatorics - Reading Project Feb 2024 - Jun 2024
Supervision: Prof. Amit Kuman Sinhababu, CMI.

IITB Trust Lab Internship Program May 2023 - Dec 2023
Understanding the limits of Information-Theoretically Secure Multi-Party Computation
Supervision: Prof. Manoj Prabhakaran, IIT Bombay.

EXPERIENCE

RIMC Entrance Dec 2023
Was part of a team of 10 responsible for correcting the answer scripts for the entrance examination of Rashtriya Indian Military College.

ACHIEVEMENTS

Selected for **IITB Trust Lab Internship Program**, IIT Bombay 2023

CMI Shriram Scholarship 2021
Full tution fee waiver for undergraduate studies at CMI

Qualified **Tesselate Stems** (Organised by students of CMI) 2021

Quaified **Sum - It** (Organised by students of ISI Kolkata) 2020

Qualified for final round of **Young Innovators Program** 2017
(Organised by students of IIT Kharagpur)

WORKSHOPS

IITB CSE Research Symposium March 2023
Selected for CSE Research Symposium at IIT Bombay.

Madhava Maths Camp 2022
Summer Camp for MMC 2022 Qualified Students at CMI
Topics taught: Algebra(Groups, Rings), Analysis(StoneWeirstrass Theorem), Graph Theory and Combinatorics(Arrangements of Hyperplane).

PRESENTATIONS

Distributed aprroximate algorithm for bipartite vertex cover presentation given as a part of combinatorial optimization course(link). 2024

Most efficient binary encoding of a message talk delivered as part of the CMI Student Seminar (slides) (website). 2023

Project report on Locally decodable codes with 2 queries and polynomial identity testing for depth 3 circuits based on the paper by Zeev Dvir and Amir Shpilka as a part of algorithmic coding theory.course(link). 2023

COURSEWORK (UNDERGRADUATE)

Semester 1
Analysis 1
Linear Algebra
Haskell
Classical Mechanics
English

Semester 2
Probability Theory
Discrete Mathematics
Advanced Programming
Group Theory
Analysis 2

Semester 3
Ring Theory and Field Theory
Design and Analysis of Algorithms
Theory of Computation
Analysis 3
Calculus

Semester 4
Complexity Theory 1
Programming Language Concepts
Topology
Differential Equations
Complex Analysis

Semester 5
Quantum ALgorithms
Algorithmic Coding Thoery
Stochastic Processes
Theroretical Foundations of Machine Learning

Semester 6
Approximation Algorithms
Combinatorial Optimization
Quantum Information Theory
Economics

SKILLS

Programming
Haskell, Python, Java, LaTeX, Bash, Qiskit

Languages
Fluent in Bangla (Native), English and Hindi.