# Soumyadeep Paul

Last updated: October 13, 2024
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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 (TIFR)

**Semester 1**

Data structures and algorithms
Mathematical Foundations of Computer Science
Probability

## COURSEWORK (CMI)

**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.