Dhrubajyoti Ghosh

Curriculum Vitae

Personal

Year of Birth:	2002
Country of Origin:	India
Email:	dghosh@ens-paris-saclay.fr
Home Page:	https://ghoshdhruba.github.io/
Language:	English (fluent), Bengali (mother tongue), French (basic)

Education

2018-2020	**Kendriya Vidyalaya IIT Kharagpur, West Bengal, India** Senior Secondary (Stream: Science), percentage: 95.6%
Dec 2020-Jul 2023	**Chennai Mathematical Institute, India** B.Sc. Mathematics and Computer Science, CGPA: 9.26/10
Sep 2023-Sep 2024	**ENS Paris-Saclay** M1 Master Parisien de Recherche en Informatique Marks: 16.86/20, rank: 4 out of 27, summa cum laude
Oct 2024-Till Date	**ENS Paris-Saclay** M2 Master Parisien de Recherche en Informatique

Research Interests

Distributed computing, and in particular, application of topological methods, concurrent programming and clock synchronization.

Internships, Projects

Apr - Aug 2025	**M2 Internship at ENS Paris-Saclay** Continuation of the work done during my M1 internship.
Feb - June 2024	**M1 Internship at ENS Paris-Saclay** Worked under Prof. Thomas Nowak on finding a synchronous message passing model equivalent to the asynchronous message passing model with process faults. Collaborated with researchers from Technion, Israel and UNAM, Mexico.
Sep - Dec 2023	**Reading project in distributed computing, ENS Paris-Saclay** Read and presented two recent results (here, here) using topological methods to characterize task solvability in various distributed computing models
May - July 2023	**Internship at Max Planck Institute for Informatics, Saarbrücken** Worked under Dr. Christoph Lenzen on the problem of efficient synchronous counting. The aim was to improve the communication complexity of an existing algorithm.
May - July 2022	**Summer Internship at IIT Kharagpur, India** Studied Nakamoto consensus [slides] and parts of the Paxos protocol under Prof. Sudebkumar Pal.

Selected Coursework

Mathematics:

(At CMI):
Topology
Differential Equations
Probability Theory
Real Analysis
Complex Analysis
Ring and Field Theory
Group Theory
Linear Algebra

Computer Science:

(In MPRI M1 & M2):
Distributed algorithms on networks
Advanced graph theory
Theory of practical graph algorithms
Quantum information and applications
Approximation Algorithms
Analytic Combinatorics (course: Analysis of Algorithms)
Computer Algebra
Probabilistic Aspects of Computer Science
Lambda-calculus and categories

(At CISPA, Saarbrücken, not for credit):
Clock Synchronization and Adversarial Fault Tolerance

(At CMI):
Concurrent Programming
Programming Language Concepts
Infinite State Verification
Theory of Computation
Design and Analysis of Algorithms
Computational Complexity
Discrete Mathematics

Achievements, Awards

2019 **Indian National Mathematical Olympiad**
Among top 31 students nationwide chosen for IMO Training Camp in 2019, 2020

2023-2025 **Université Paris-Saclay IDEX Scholarship**
Monthly grant of 1000€ for attending the MPRI program at ENS Paris-Saclay

Software Knowledge

Programming Languages: C++ (fluent), Python (fluent), Haskell (basic)
Misc. : Unix, Vim, Z3, PyTorch, LaTeX

Unix Experience

I have basic experience with GNU utilities (`grep`, `find`, `sed`, etc.). I can write basic shell scripts, mostly for automating jobs like displaying notifications after completion of long processes, filtering specific emails, etc.

Hobbies

I like listening to Indian and Western classical music. I play an Indian instrument called the sitar. I am also a passionate cyclist.