

SOHAM CHATTERJEE

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EDUCATION

- **Chennai Mathematical Institute** **2021 – 2024**
B.Sc. - Mathematics and Computer Science *Chennai, India*
- **Baranagar Narendranath Vidyamandir** **2018 – 2020**
Higher Secondary (12th Standard) Education *Kolkata, India*
- **Baranagar Ramakrishna Mission Ashrama High School** **2008 – 2018**
Secondary (12th Standard) Education *Kolkata, India*

ACADEMIC ACHIEVEMENTS

- **GS Exam, I-PhD, Computer Science, 2024** **TIFR Mumbai, India**
Nation wide entrance exam in Computer Science for Tata Insititute of Fundamental Reseach. Only 2 people got selected.
- **JEST, I-PhD, Theoretical Computer Science, 2024 - Rank 5** **IMSC, India**
Nation wide entrance exam in Computer Science for Insitute of Mathematical Sciences
- **NEST, B.Sc., 2021** **NISER, India**
Nation wide bachelors entrance exam for National Institute of Science Education and Research
- **WBJEE, B.Tech, 2020 - Rank 1893** **WBJEEB**
Joint Entrance exam for B.Tech for West Bengal state
- **12th Statistics Olympiad, 2020 - Rank 28** **AIMSCS**
Organised by C R Rao Advanced Institute of Mathematics, Statistics and Computer Science

INTERNSHIPS

- **Ramanujan's work on theta functions and q -series and their connections with number theory.** **May - Jul, 2022**
IIT Guahati
 - Supervisor: Rupam Barman
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- **Computational Number Theroy and Algebra for Algebraic Comlexity Theory.** **Dec - Jan, 2022**
IIT Kanpur
 - Supervisor: Nitin Saxena
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- **Factorization of Arithmetic Circuits in Algebraic Complexity Theory** **May - Jul, 2022**
IIT Kanpur
 - Supervisor: Nitin Saxena
 -
- **Quantum Property Testing of Junta Functions and Partially Symmetric Functions.** **Dec, 2024 – Going on**
Indian Statistical Institute, Kolkata
 - Supervisor: Arijit Ghosh
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- **Polyhedral Combinatorics and Derandomization of Isolation Lemma** **May - Jul, 2024**
IIT Mumbai
 - Supervisor: Rohit Gurjar
 - I read the paper 'Bipartite Perfect Matching is in QUASI-NC' by Fenner Gurjar Thierauf
 - In addition i learned about Matroid Polytopes and Their Properties from the paper 'Linear Matroid Intersection Is in QUASI-NC' by Gurjar and Thierauf. From this paper I also learned how the idea of isolating a bipartite perfect matching by find a weight assignment giving nonzero circulations to all cycles of size twice the smallest cycle by making their number polynomially bounded generalized to matroid polytopes by defining new type cycles with respect to a face.
 - Then I read the paper 'Fractional Linear Matroid Matching is in QUASI-NC which generalizes this idea further more by allowing half-integral vertices in the matroid matching polytope.
 - Additionally I read about isolating a path connecting the source vertex and sink vertex in a black-box layered graph with only knowledge of length and width of the graph from the paper 'Derandomizing Isolation in Space-Bounded Settings' by Melkebeek and Prakriya.

RELEVANT COURSE WORK

Consulting Corp

Jul 2015 – Jun 2025

Senior DevOps Engineer (FTE Consultant)

Client: Notable Placement

- Analyzed network traffic patterns to identify bottlenecks and optimize performance
- Implemented firewall rules to enhance network security and prevent unauthorized access
- Conducted regular vulnerability assessments and applied patches to secure systems
- Collaborated with cross-functional teams to streamline IT processes and improve efficiency

Client: Challenges Unlimited

- Configured monitoring tools to track system performance and troubleshoot issues proactively
- Automated routine tasks using scripts to reduce manual effort and increase productivity
- Documented system configurations and procedures for knowledge sharing within the team
- Participated in disaster recovery planning and drills to ensure business continuity in case of emergencies

Client: Broken Galleries

- Implemented cloud migration strategies to move applications to a hybrid environment
- Optimized database performance through indexing and query tuning techniques
- Conducted capacity planning and scalability assessments to support future growth
- Provided on-call support for critical issues and worked on root cause analysis for incident resolution

HealthCo Industries

Feb 2011 – Mar 2016

Senior Systems Administrator (SRE)

- Managed virtualized server environment spanning multiple data centers
- Oversaw migration of critical business applications to cloud-based platforms
- Configured and monitored network security measures, including firewalls and intrusion detection systems
- Implemented multi-factor authentication for remote access to company systems
- Streamlined patch management process, reducing vulnerabilities and downtime
- Conducted regular vulnerability assessments and penetration testing
- Automated server provisioning and configuration management tasks
- Maintained documentation for IT policies and procedures
- Coordinated responses to cybersecurity incidents with internal teams and external vendors

VOLUNTEER / OPEN SOURCE

Hospital / Health Science IRB

Mar 2015 – Present

- Served as non-scientific/unaffiliated patient-representative
- Reviewed patient consent forms for completeness, accuracy, and clarity
- Became familiar with industry standards and regulations (OHRP, HIPAA)

Debian Linux

Jan 2001 – Present

- Maintained packages in Debian repositories
- Reviewed and sponsored packages on behalf of prospective Developers
- Resolved bugs reported in bug tracking system