

# Aditya Ghosh

## Curriculum Vitae

Sodepur, Panihati

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### Education

- 2020–present **Masters of Statistics (M.Stat)**, *Indian Statistical Institute (I.S.I.)*, Kolkata, India.  
Scored 93.6% in the first semester.
- 2017–2020 **Bachelor of Statistics (B.Stat)**, *Indian Statistical Institute (I.S.I.)*, Kolkata, India.  
Scored 93.87% in aggregate.
- 2015–2017 **Higher Secondary (Standard 12) Examination**, *Ramakrishna Mission Boys' Home, Higher Secondary School, Rahara*, Kolkata.  
Scored 91% in aggregate, with 100 in Mathematics and 99 in Statistics.
- 2005–2015 **Secondary (Standard 10) Examination**, *Ramakrishna Mission Boys' Home, Higher Secondary School, Rahara*, Kolkata.  
Scored 87.14% in aggregate, with 100 in Mathematics.

### Academic honors

- 2021 **ISIAA – Mrs. M.R.Iyer Memorial Gold Medal** for outstanding performance in the B.Stat course at I.S.I., Kolkata.
- 2021 **Nikhilesh Bhattacharyya Memorial Gold Medal** for outstanding performance in *Statistics* in the B.Stat course at I.S.I., Kolkata.
- 2017–2020 Got rewarded with cash prizes in form of books for ranking 1<sup>st</sup> (in all but one semester) or 2<sup>nd</sup> in the class throughout the B.Stat course at I.S.I., Kolkata.
- 2018, 2019 Selected for the prestigious **Madhava Nurture Camp** in 2019 and 2018.
- 2018 Received prizes from I.S.I. for performing well in the **Simon Marais Mathematics Competition 2018**.
- 2017 Cleared the B.Stat entrance examination of I.S.I. and the B.Sc entrance examination of Chennai Mathematical Institute.
- 2016 Achieved a **certificate of merit** for performing at a promising level in **Indian National Mathematical Olympiad (INMO) 2016**, organized by NBHM, Govt. of India.

### Short research experiences

- Winter 2020 **On Age-dependent Branching Processes with or without Immigration**, a group project with my batchmates *Wribhu Banik* and *Shouvik Middey*, under the guidance of *Prof. Soumendu Sundar Mukherjee*, as a part of the Stochastic Processes course in my M.Stat 1<sup>st</sup> Year.
- Fall 2020 **Analyzing a Lower Back Pain Data**, a group project with my batchmates *Anik Burman* and *Soham Das*, under the guidance of *Prof. Kiranmoy Das*, as a part of the Regression Techniques course in my M.Stat 1<sup>st</sup> Year.

- Summer 2020 **Finding Anomalies in a Coal Quality data of Coal India Limited**, a group project with my batchmates *Soham Das* and *Arjama Das*, under the guidance of [Prof. Debashis Sengupta](#), as a part of the Statistics Comprehensive course in my B.Stat 3<sup>rd</sup> Year.
- Spring 2020 **Typical Distance between Two Randomly Selected Vertices of a Erdős-Rényi Binomial Random Graph**, a joint project with my batchmate *Sayak Chatterjee*, under the guidance of [Prof. Antar Bandyopadhyay](#), as a part of a course on Random Graphs in my B.Stat 3<sup>rd</sup> Year.
- Summer 2019 A summer project on **Method of Moments in Probability Theory** – derived on my own some known results, e.g., Hoeffding's theorem on U-statistics, Wigner's semi-circle law in Random Matrix Theory etc., under the guidance of [Prof. Arijit Chakrabarty](#).
- Summer 2019 A summer project on Elliptic Curve Cryptography, Pseudo-random objects (PRPs, PRFs etc.) and Hash functions under the guidance of [Prof. Rana Barua](#), as a part of the Summer Internship in Cryptology, offered by the [R. C. Bose Centre for Cryptology and Security, Indian Statistical Institute](#), Kolkata.
- Winter 2017 Did an **independent study** on Analytic Number Theory – obtained a new asymptotic formula for the Chebyshev  $\vartheta$  function, which culminated into **my first publication**.

## Internships and camps

- Summer 2019 **Summer Internship in Cryptology**, offered by the [R. C. Bose Centre for Cryptology and Security, Indian Statistical Institute](#), Kolkata.
- Summer 2019 **Madhava Nurture Camp 2019** at *Chennai Mathematical Institute*, Siruseri, Chennai.
- Summer 2018 **Madhava Nurture Camp 2018** at *St. Xavier's College*, Kolkata.
- Winter 2015 **INMO 2016 training camp** at *Indian Statistical Institute*, Kolkata.

## Publications

1. Ghosh, A. (2019). An asymptotic formula for the Chebyshev theta function. *Notes on Number Theory and Discrete Mathematics*, 25(4), 1-7.

## Other projects and presentations

- Summer 2020 Presented the paper titled '[What we look at in paintings : a comparison between experienced and inexperienced art viewers](#)' authored by *Ylitalo, A.K., Särkkä, A., and Guttorp, P.*, as a part of the Statistics Comprehensive course in my B.Stat 3<sup>rd</sup> Year.
- Spring 2020 A Survey on the impact of lockdown on the academic life of students and research scholars of I.S.I. Kolkata amidst the Covid-19 pandemic, conducted as a part of the Statistics Comprehensive course in my B.Stat 3<sup>rd</sup> Year.
- Fall 2019 Two projects on applications of linear statistical models: (1) Map stitching using linear models and (2) Shape analysis using linear mixed models, as a part of a course on linear statistical models given by [Prof. Arnab Chakraborty](#).
- Fall 2019 Presented a topic on *Population Census of India, 2011* at the *Sampling and Official Statistics Unit*, I.S.I., Kolkata.
- Spring 2018 Finding solutions to the [Lights Out game](#) using Linear Algebra, as a part of a course on Linear Algebra given by [Prof. Arnab Chakraborty](#).

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## Technical skills

Programming Proficient in R and C.

Markup/Web R markdown (basic), HTML (basic) and  $\text{\LaTeX}$  (proficient).

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## Other information

Languages Bengali (mother tongue), English (fluent) and Hindi (conversational).

- Hobbies and interests
- Maintaining a blog ([ghoshadi.wordpress.com](https://ghoshadi.wordpress.com)) with two objectives:
    - To share my own thoughts on different topics in Mathematics and Statistics.
    - To present a collection of notes and articles useful for high school students preparing for Mathematical Olympiads and other competitive examinations.
  - Love to watch movies (who does not!)
  - Spending time in the library

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I hereby declare that all the information provided above are true to the best of my knowledge.

Aditya Ghosh,  
January, 2021.