

# Aditya Ghosh

## Curriculum Vitae

Sodepur, Panihati  
Kolkata 700110  
West Bengal, India  
✉ [ghoshadi26@gmail.com](mailto:ghoshadi26@gmail.com)

### Education

- 2017–2020 **Bachelor of Statistics (B.Stat)**, *Indian Statistical Institute (I.S.I.)*, Kolkata, India.  
Secured 93.87% in aggregate.
- 2015–2017 **Higher Secondary (Standard 12) Examination**, *Ramakrishna Mission Boys' Home, Higher Secondary School, Rahara*, Kolkata.  
Secured 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.  
Secured 87.14% in aggregate, with 100 in Mathematics.

### Academic honors

- 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> throughout the B.Stat course in I.S.I. Kolkata.
- 2018, 2019 Selected for the prestigious *Madhava Nurture Camp* in 2019 and 2018.
- 2018 Scored in the top quartile in the *Simon Marais Mathematics Competition* (2018).
- 2017 Ranked second in the *B.Stat entrance examination* of I.S.I. Kolkata. Also succeeded in the B.Sc entrance examination of *Chennai Mathematical Institute*, Siruseri, Chennai.
- 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 the Random Graphs course in my B.Stat 3<sup>rd</sup> Year.

- Summer 2019 A summer project on application of method of moments to derive some known results, such as 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.

## 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](#).

## Technical skills

- Programming Proficient in R and C.
- Markup/Web R markdown (basic), HTML (basic) and  $\text{\LaTeX}$  (proficient).

## 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 16, 2021.