

# Pratik Shastri

[pratiks@imsc.res.in](mailto:pratiks@imsc.res.in), [pratikshastri28@gmail.com](mailto:pratikshastri28@gmail.com)

## Education

---

**The Institute of Mathematical Sciences, Chennai**

**2021 – Present**

*Graduate Student, Theoretical Computer Science*

Advisor: C Ramya

**IIIT Bangalore**

**2015 – 2020**

*Integrated MTech, Computer Science and Engineering*

Thesis: Autonomous traffic lights: A study in the behaviour and optimization of autonomous traffic light agents.

## Research

---

I am interested in Computational Complexity Theory. More specifically, I have worked on problems related to lower bounds and identity testing in Algebraic Complexity Theory.

## Publications

- [Lower Bounds for Planar Arithmetic Circuits](#) - **ITCS 2024**, Joint work with C. Ramya
- [Efficient Polynomial Identity Testing Over Nonassociative Algebras](#) - **RANDOM 2025**, Joint work with Partha Mukhopadhyay and C. Ramya

## Preprints

- [On the Hardness of Order Finding and Equivalence Testing for ROABPs](#) - Joint work with C. Ramya
- [Lower Bounds for Noncommutative Circuits with Low Syntactic Degree](#)

## Experience

---

### Teaching Assistantship

- Theory of Computation, *The Institute of Mathematical Sciences, Chennai* (2025)
- Computational Complexity Theory, *The Institute of Mathematical Sciences, Chennai* (2024)
- Discrete Mathematics, *The Institute of Mathematical Sciences, Chennai* (2023)

## Talks and Presentations

- 
- Efficient Polynomial Identity Testing Over Nonassociative Algebras, **RANDOM 2025**, **20-minute talk @ UC Berkeley, CA, USA**
  - Lower Bounds for Planar Arithmetic Circuits, **ITCS 2024**, **20-minute Online talk**

- Lower and upper bounds for sums of powers of linear forms, **TCS Summer School, IMSc Chennai** (2023)

I organize weekly Computational Complexity reading group meetings at IMSc Chennai.

## Interests

---

Apart from reading for research, I like reading fiction. I also enjoy playing tennis and chess.