# CHAITANYA AGARWAL

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## RESEARCH INTERESTS

I am a third-year Computer Science PhD student at New York University, advised by Joseph Tassarotti. My research lies at the intersection of programming languages and formal verification, with a growing focus on security properties. I am particularly interested in mechanized verification, abstract interpretation, and statistical model checking, and have applied all three in prior research projects.

## EDUCATION

**New York University**  
*Doctor of Philosophy in Computer Science*  
New York City, NY  
*Sep. 2023 – Present*

**New York University**  
*Master of Science in Computer Science*  
New York City, NY  
*Sep. 2021 – May 2023*

**Indraprastha Institute of Information Technology Delhi**  
*Bachelor of Technology in Computer Science and Engineering, Minor in Economics*  
New Delhi, India  
*Aug. 2016 – June 2020*

## PROFESSIONAL EXPERIENCE

**Tesla Motors**  
*Intern*  
Fremont, CA  
*May 2022 – Aug. 2022*

**Samsung SDS**  
*Software Engineer*  
Gurugram, India  
*Dec. 2020 – May 2021*

## PUBLICATIONS

Simon Oddershede Gregersen, **Chaitanya Agarwal** and Joseph Tassarotti. *Logical Relations for Formally Verified Authenticated Data Structures*. Proc. ACM SIGSAC Conference on Computer and Communications Security (CCS 2025) *(To Appear)*   [paper] [code]

Mihai Nicola, **Chaitanya Agarwal**, Eric Koskinen, Thomas Wies. *Inferring Accumulative Effects of Higher Order Programs*. Proc. ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2025) *(To Appear)*.   [paper] [code]

**Chaitanya Agarwal**, Shibashis Guha, Jan Křetínský, and M. Pazhamalai. *PAC Statistical Model Checking of Mean Payoff in Discrete- and Continuous-Time MDP*. Proc. International Conference on Computer-Aided Verification (CAV'22)   [paper] [code]

Kelin Luo, **Chaitanya Agarwal**, Syamantak Das, and Xiangyu Guo. *The Multi-Vehicle Ride Sharing Problem*. Proc. International Conference on Web Search and Data Mining (WSDM'22)   [paper] [code]

## OTHER ACTIVITES

**New Jersey Programming Languages Seminar (NJPLS)**
- Organized the May 2024 Iteration at NYU
- Serve on the Steering Committee

**Teaching Assistant**                                                                 NYU
- Section Leader for Programming Langauges, Fall 2024
- Section Leader for Programming Langauges, Fall 2023
- Grader for Deep Learning, Fall 2023
- Grader for Deep Learning, Spring 2023

**Teaching Assistant**                                                                 IIIT Delhi
- Section Leader and Grader for Algorithm Analysis and Design, Winter 2020
- Section Leader and Grader for Discrete Mathematics, Monsoon 2018