

# Vaibhav KRISHAN

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## RESEARCH POSITIONS

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**PDF (TCS)**                      The Institute of Mathematical Sciences      July 2024-Present

## EDUCATION

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**Ph.D.**                                      Indian Institute of Technology Bombay      July 2017-May 2024  
COMPUTER SCIENCE                      Advised by Prof. Sundar Vishwanathan  
AND ENGINEERING                      and Prof. Nutan Limaye

**B.Tech.**                                      Indian Institute of Technology Bombay      July 2009-May 2013  
COMPUTER SCIENCE                      CPI: 7.59/10  
AND ENGINEERING

## JOURNAL PUBLICATIONS

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**Algorithmica**                      A #SAT Algorithm for Small Constant-depth Circuits with PTF gates  
with S. Bajpai, D. Kush, N. Limaye and S. Srinivasan  
Algorithmica 84, 1132-1162 (2022).

## CONFERENCE PUBLICATIONS

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**ITCS 2026**                                      Lower Bounds and Separations for Torus Polynomials  
with S. Vishwanathan  
The 17<sup>th</sup> Innovations in Theoretical Computer Science Conference, 2026  
(to appear).

**CSR 2021**                                      Upper Bound for Torus Polynomials  
The 16th International Computer Science Symposium in Russia, 2021.

**ITCS 2019**                                      A #SAT Algorithm for Small Constant-depth Circuits with PTF gates  
with S. Bajpai, D. Kush, N. Limaye and S. Srinivasan  
The 10<sup>th</sup> Innovations in Theoretical Computer Science Conference, 2019.

## PREPRINTS

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**ECCC**                                      Isolation Lemma for Directed Reachability and NL vs. L  
with N. Limaye

## TALKS AND PRESENTATIONS

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Lecture	Polynomials and Computation Foundational Lecture Series on TCS, IMSc, 2025.
Presentation	Upper Bound for Torus Polynomials CSR 2021. (online)
Presentation and Poster	A #SAT Algorithm for Small Constant-depth Circuits with PTF gates ITCS 2019.

## SERVICE AND ENGAGEMENT

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Sub-reviewer	Computational Complexity Conference (CCC) 2024.
Sub-reviewer	Foundations of Software Technology and Theoretical Computer Science (FSTTCS) 2024
Volunteer	FSTTCS 2019

## TEACHING ASSISTANCE

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- Awarded best TA of the month for Automata Theory.
- Awarded best TA for CS 101.
- TA duty for complexity theory, design and analysis of algorithms, and combinatorics.

## PROFESSIONAL EXPERIENCE

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- Freelance work in quantitative trading for multiple clients since May '22.
- Quantitative Research Consultant for AlphaGrep, and for 5-Swans, during official break from PhD June '21-May '22.
- As Quantitative Developer in AlphaGrep from June '16-July 17 and Jan '14-May '15.
- As Data Scientist in Housing.com from May '15-May '16.
- As Software Engineer in Samsung from July '13-Dec '13.

## PERSONAL DETAILS

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D.O.B.	09 <sup>th</sup> December 1993
Sex	Male
Nationality	Indian