

EDUCATION

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| North Carolina State University, Raleigh, NC, USA.
DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE
– Advisor: Dr. Sharma Valliyil Thankachan | 2024 – Present
GPA: 4.0/4.0 |
| Indian Institute of Technology Madras, Chennai, India.
MASTER OF SCIENCE IN MATHEMATICS
– M.Sc. Project: <i>Minimum Consistent Subset Problem</i> [Project Report]
– Advisor: Prof. Sounaka Mishra | 2022 – 2024
CGPA: 8.22/10 |
| Government College of Technology, Coimbatore, India.
BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING | 2015 – 2019
CGPA: 8.06/10 |

EMPLOYMENT

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| 1. Associate Software Engineer
<i>OptumInsight India Private Limited, Chennai, India.</i> | June 2019 – Nov 2021 |
| 2. Software Engineer Intern
<i>OptumInsight India Private Limited, Chennai, India.</i> | Dec 2018 – Jan 2019 |

RESEARCH INTERESTS

Theoretical Computer Science: String Algorithms, Graph Algorithms, and Parameterized Algorithms.

CONFERENCE PROCEEDINGS

- M. Oguzhan Kulekci, **M P**, Rahul Shah, and Sharma V. Thankachan: *Relative Compressed Reverse Suffix Array* ([STACS 2026](#))
- Aritra Banik, **M P**, Venkatesh Raman, Diya Roy, and Abhishek Sahu: *Learning with Structure: Computing Consistent Subsets on Structurally-Regular Graphs* ([AAAI 2026](#))
- Daniel Gibney, Jackson Huffstutler, **M P**, and Sharma V. Thankachan: *Repetition Aware Text Indexing for Matching Patterns with Wildcards* ([ICALP 2025](#))

PREPRINT(S)

- Aritra Banik, **M P**, Venkatesh Raman, Diya Roy, and Abhishek Sahu: *Learning with Structure: Computing Consistent Subsets on Structurally-Regular Graphs* ([arXiv:2512.12860](#))

AWARDS AND ACADEMIC MERITS

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| 1. Mentored Teaching Fellowship
<i>College of Engineering, North Carolina State University</i> | 2026 |
| 2. University Graduate Fellowship
<i>Department of Computer Science, North Carolina State University</i> | 2024 |
| 3. Graduate Aptitude Test in Engineering (GATE) 2022 (Mathematics)
<i>All India Rank 46 among 13,518 candidates</i> | 2022 |

3. IIT Joint Admission for Masters (IIT-JAM) 2022 (Mathematics)

2022

All India Rank 121 among 12,716 candidates

TEACHING

1. CSC 505 - Design and Analysis of Algorithms

Jan 2026 – May 2026

North Carolina State University, Raleigh, NC, USA.

Assisted 38 students as the sole TA by leading twice-weekly office hours, grading assignments and exams, managing course logistics, and teaching selected lecture material.

2. CSC 216 - Software Development Fundamentals

Aug 2024 – Dec 2024

North Carolina State University, Raleigh, NC, USA.

Supported 276 students across 3 sections as part of a team of 19 TAs by leading weekly hands-on labs, holding office hours, grading assignments/exams, and proctoring to uphold academic integrity.

3. CS 2800 - Design and Analysis of Algorithms (On Instructor's Appointment)

Jan 2024 – May 2024

Indian Institute of Technology Madras, Chennai, India.

Served as one of the Lead TAs for 111 undergraduate students on a 10-person TA team, conducting tutorials, evaluating coursework/exams, and proctoring to support student learning.

SERVICES

REVIEWER/SUB-REVIEWER

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| 1. International Symposium on String Processing and Information Retrieval (SPIRE) | 2026 |
| 2. Combinatorial Pattern Matching (CPM) | 2026 |
| 3. Symposium on Computational Geometry (SoCG) | 2026 |
| 4. AAAI Conference on Artificial Intelligence (AAAI) | 2026 |
| 5. International Symposium on Algorithms and Computation (ISAAC) | 2025 |
| 6. European Symposium on Algorithms (ESA) | 2025 |
| 7. International Conference on Algorithms for Bioinformatics (WABI) | 2025, 2026 |
| 8. SIAM Conference on Applied and Computational Discrete Algorithms (ACDA) | 2025 |

UNIVERSITY

1. Co-organizer, NCSU Theory Talk Series

2025

North Carolina State University, Raleigh, NC, USA.

Responsible for co-ordinating research talks and maintaining the [NC State CS Theory website](#).

2. Head, Technical Support, Forays'24

2024

Indian Institute of Technology Madras, Chennai, India.

Head of Technical Support Team, and Website developer of Forays'24 - The annual 2-day math festival of IIT Madras.

3. Joint Secretary, Forays'23

2023

Indian Institute of Technology Madras, Chennai, India.

Led end-to-end planning and execution of a 2-day math fest, built and maintained the event website, and coordinated logistics for 150+ college participants and 350+ school students.

4. Co-Head, Hospitality Committee, Infoquest'19

2019

Government College of Technology, Coimbatore, India.

Co-headed end-to-end hospitality and vendor coordination for InfoQuest - The annual 2-day symposium of Department of CSE, GCT, Coimbatore (300+ attendees).

TALKS

- 1. Pattern Matching with Wildcards in Repetitive Texts** [\[view slides\]](#) Sep 2026
Rochester Institute of Technology, Rochester, USA.
Virtual talk in the Rochester Theory Seminar series, based on our ICALP 2025 paper.
- 2. Probabilistic Methods in Extremal Combinatorics - An Introduction** [\[view slides\]](#) Nov 2023
Indian Institute of Technology Madras, Chennai, India.
Presented as a part of my M.Sc. coursework.
- 3. Ramsey Numbers - An Introduction** [\[view slides\]](#) June 2023
Institute of Mathematical Sciences, Chennai, India.
Presented as a part of IMSc Summer Student Program 2023.

CONFERENCES & WORKSHOPS ATTENDED

- 1. Triangle Lectures in Combinatorics - Fall 2025** Nov 2025
Duke University, Durham, North Carolina, USA.
- 2. Simons Workshop on Graph Learning meets Theoretical Computer Science** Aug 2025
Simons Institute, Berkeley, California, USA.
- 3. DIMACS Workshop on Hardness of Approximation in P** July 2025
Rutgers University, New Brunswick, New Jersey, USA.
- 4. Triangle Lectures in Combinatorics - Spring 2025** Apr 2025
NC State University, Raleigh, North Carolina, USA.
- 5. Symposium on Discrete Algorithms (SoDA 2025)** Jan 2025
New Orleans, Louisiana, USA.
- 6. International Symposium on String Processing and Information Retrieval (SPIRE 2024)** Sep 2024
Puerto Vallarta, Mexico.
- 7. ACM India Summer School on Algorithmic Approaches to NP-completeness** July 2024
PSG College of Technology, Coimbatore, India.
- 8. ACM India Winter School on Network Science: Theory & Applications** Dec 2023
Ahmedabad University, Ahmedabad, India.

OUTREACH ACTIVITIES

- 1. Programming in Python** [\[view code\]](#) Sep 2023
St. George's College, Aruvithura, Kottayam, India.
A half a day session in which I taught basic Python to about 15 students of Bachelors in Math program
- 2. Introduction to Python Programming** [\[view code\]](#) Sep 2023
St. Thomas' College, Pala, Kottayam, India.
A half a day session in which I taught Python to about 30 students of Master in Statistics program.
- 3. Introduction to Python Programming** [\[view code\]](#) Sep 2023
St. Alphonsa's College, Pala, Kottayam, India.
A half a day session on Python to about 20 students of Bachelors in Math program
- 4. Career in Software and Software in your career** [\[Session-1 slides\]](#) [\[Session-2 slides\]](#) Oct 2022
Indian Institute of Technology Madras, Chennai, India.
This series of talk was presented at Seminars, Department of Mathematics, IIT Madras, Chennai, India.

5. What after Undergrad ? [\[view slides\]](#)

July 2019

Government College of Technology, Coimbatore, India.

This seminar primarily focused on the opportunities after Undergrad in Computer Science and Engineering.

TECHNICAL SKILLS

Programming Languages – Python, C, C++, Java (*Basics*), R (*Basics*).

Softwares – L^AT_EX, Mathematica, MATLAB (*Basics*).

Databases– Oracle, Neo4j (*Basics*).

EXTRA CURRICULAR ACTIVITIES

1. Runner-up in 7-a-side Soccer organized as a part of Dean's Trophy, IIT Madras	2023
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OTHER ACHIEVEMENTS

1. Inspiration Award, SIH'18	2018
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Noida, India.

Awarded by Persistent Systems Ltd. to our team in Smart India Hackathon 2018 organised by the Government of India.

2. National 1st (Team), BPMMQ'14	2014
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Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam, India.

Won National 1st (team) in the Prof. Brahm Prakash Memorial Materials Quiz (BPMMQ), representing IIM Tiruchirappalli (IIM Trichy), organized by the Indian Institute of Metals.

OTHER DETAILS

Gender and Date of Birth - Male, and 1 October 1997.

Languages known - Tamil (*Native*), English, and Hindi.