Satya Prakash **Nayak**

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Objective

Grad student with special interests in the intersection of Mathematics and Theoretical Computer Science. Has interests in fields of Automata theory, Formal Logic and Algorithms.

Education

Master of Science (Hons.) in Computer Science — Aug 2019 - Present
Chennai Mathematical Institute, Chennai
CGPA: 9.75

Bachelor of Science (Hons.) in Mathematics and Computer Science — Aug 2016 - Aug 2019
Chennai Mathematical Institute, Chennai
CGPA: 8.47

Senior School Certificate Examination- Std 12 — 2014 - 2016
BJB Junior College, Bhubaneswar, Odisha
510/600 in CHSE, Odisha

Secondary School Examination- Std 10 — 2009 - 2016
Rtapalli Vidyapitha, Bhubaneswar, Odisha
573/600 in BSE, Odisha

Research Experience

Master's Thesis Project — July - Dec 2020
on *Adaptive Strategies for rLTL Games*
Under the guidance of **Prof. Martin Zimmermann**, University of Liverpool, England
and **Prof. Daniel Neider**, Max Planck Institute for Software Systems, Germany

Summer Research Internship — May - July 2019
on *Minimization of visibly Pushdown Automata*
at **Aix-Marseille University**, Marseille, France
Under the guidance of **Prof. Jean Marc Talbot**

Reading Project — Aug - Dec 2020
on *Metric Embeddings and their Algorithmic Applications*
with **Prof. Prajakta Nimbhorkar**
at Chennai Mathematical Institute, Chennai

Reading Project — Aug - Dec 2019
on *Games on Graphs (Parity Games)*
with **Prof. B Srivathsan**
at Chennai Mathematical Institute, Chennai

Teaching Assistant

Teaching Assistant at CMI:
Data Mining and Machine Learning — Aug - Nov 2019
Design and Analysis of Algorithms — Aug - Nov 2020

Faculty at Rtapalli Vidyapitha:
Calculus (for 12th standard) — Sep 2017 - Aug 2018
Olympiad Preparation — June 2014 - April 2016

Coursework

Post-graduation

Games on Graphs II, Concurrency Theory, Advanced Algorithms, Complexity Theory I, Mathcings and Network flows, Linear Optimization, Coding Theory, Graph Theory, Metric Embeddings and their Algorithmic Applications, Quantum Computing

Under-graduation

Computer Science :
Discrete Mathematics, Design and Analysis of Algorithms, Programming Language Concepts, Functional Programming (Haskell), Advanced Programming (Python), Theory of Computation, Games on Graphs, Mathematical Logic, Data Mining and Machine Learning, Optimization Techniques, Logic Automata and Games, Weighted Automata, Timed Automata

Mathematics :
Real Analysis, Complex Analysis, Linear Algebra, Abstract Algebra[Group, Ring, Field Theory], Linear Groups, Topology, Calculus, Differential Equations, Probability, Game Theory

Computer Language Skills

Programming Languages: Python, Java, Haskell
Other Languages: HTML, LaTeX

Achievements

2016 Selected to appear in *Asian Pacific Mathematical Olympiad (APMO)*

2015 *Zonal Informatics Olympiad (ZIO)* conducted by Indian Association for Research in Computing Sciences (IARCS)

2015 *Indian National Mathematics Olympiad (INMO)* conducted by National Board of Higher Mathematics (NBHM)

2015 *National Standard Examination in Astronomy (NSEA)* organized by Homi Bhabha Centre for Science Education (HBCSE)

2015 *American Mathematics Competition (AMC) 12* and selected to participate in the *American Invitational Mathematics Examination (AIME)* organized by Mathematical Association of America

2014 *Regional Mathematics Olympiad (RMO)* (State Topper) conducted by National Board of Higher Mathematics (NBHM)

Camps and Talks Attended

Complexity, Algorithms, Automata and Logic Meet 21st - 25th January, 2019
Chennai Mathematical Institute, Chennai

Training Program in Mathematics May - June 2018
National Institute of Science Education and Research, Bhubaneswar

International Mathematics Olympiad Training Camp April - May 2015, 2016
Homi Bhabha Centre for Science Education, Mumbai