

Eshwar Ram Arunachaleswaran

Curriculum Vitae

Education

Aug 2019–
current **Ph.D. in Computer Science**, *University of Pennsylvania*.

Aug 2014–
Dec 2017 **B.E(HONS) Computer Science**, *Birla Institute of Science and Technology (BITS) Pilani*, Pilani Campus.

Research Interests

Algorithms and Complexity, Algorithmic Game Theory, Graph Algorithms.

Publications

Fully Polynomial Time Approximation Schemes for Fair Rent Division,
With Siddharth Barman and Nidhi Rathi,
SODA 2019.

[Link to arXiv version \(arXiv Identifier - 1807.04163\)](#)

Fair Division with a Secretive Agent,
With Siddharth Barman and Nidhi Rathi,
AAAI 2019.

[Link to arXiv version \(arXiv Identifier - 1811.10859\)](#)

Fair and Efficient Cake Cutting with Connected Pieces,
With Siddharth Barman, Rachitesh Kumar and Nidhi Rathi,
WINE 2019.

[Link to arXiv version \(arXiv Identifier - 1907.11019\)](#)

Research Experience

Jan **Research Associate**, *CSA*, Indian Institute of Science, Bangalore.
2018–June TOPICS: Algorithmic Game Theory, Computational Fair Division, Cake Cutting, Rent
2019 Division, Sperner's Lemma, Brouwer's Fixed Point Theorem
Worked with Prof. Siddharth Barman on problems from Computational Fair Division

- June **Research Intern, Conduent Labs (formerly Xerox Research).**
 2017–August TOPICS: Algorithmic Game Theory, Fair Division, Cake Cutting
 2017 Worked with Dr. Raga Gopalakrishnan on Cake Cutting Algorithms.
[Link to arXiv Draft Containing our Findings \(arXiv Identifier - 1801.08341\)](#)
- May 2016– **Research Intern- Matchings using Graphs, Chennai Mathematical Institute.**
 July 2016 TOPICS: Matchings, Graph Algorithms, Game Theory
 Worked with Dr. Prajakta Nimbhorkar of CMI.
 o Studied the Characterization of Rank Maximal and Popular Matchings using graphs.
 o Developed a reduction of Rank Maximal and Popular matching problems in the capacitated instance to the standard problems using dummy applicants and cheating strategies.
- June **Research Intern-Traffic Routing using Multi-Commodity Flows, TCS Innovation Labs, IIT-Madras Research Park.**
 2015–July 2015 TOPICS: Routing, Network Flows, Self-Interested Users, Fairness, Price of Anarchy
 Worked with Dr.Venkatesh Sarangan of TCS Innovation Labs
 o Reviewed literature and implemented approximation algorithms for optimal traffic routing through network flows.
 o Modified the routing scheme to ensure fairness among self interested users while maintaining bounds on loss of optimality.
- Aug **Undergraduate Thesis, Chennai Mathematical Institute, Advisor - Dr. Prajakta**
 2017–Dec Nimbhorkar.
 2017 TOPIC : Dynamic Graph Algorithms for Matching Problems
- January **Design Project - Space Constrained Verification of Streaming Problems in**
 2017–May **Graphs with Prof. Sundar Balasubramaniam , Computer Science Department,**
 2017 BITS Pilani.
 TOPICS: Streaming Algorithms, Graph Algorithms, Polylog Space Verification
- January **Study Project- Heuristics for Computational Protein Structure Prediction ,**
 2016–May **Biology Department, BITS Pilani.**
 2016

Service

- Sub-reviewer for WINE 2018
- Sub-reviewer for EC 2018
- Sub-reviewer for SAGT 2019

Others

- Jan 2017- Coordinator, Debating Society, BITS Pilani
- May 2017