

# Shreyas Pai

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## CONTACT INFORMATION

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## RESEARCH INTERESTS

My research interests are in Theoretical Computer Science, more specifically in Distributed Algorithms, Communication Complexity, and Combinatorial Optimization.

## EDUCATION

**PhD and MS in Computer Science** **2016–2021**  
*The University of Iowa* Iowa City, USA  
Advisor: Prof. Sriram V. Pemmaraju. CGPA: 4.07/4

**B.Tech in Computer Engineering** **2012–2016**  
*Veermata Jijabai Technological Institute* Mumbai, India  
CGPA: 8.13/10

## PROFESSIONAL EXPERIENCE

- ◇ Postdoctoral Researcher at *Aalto University*, Finland August 2021 – present  
Host: Jara Uitto.
- ◇ Research Internship at *Technion Israel Institute of Technology* May – July 2019  
Host: Keren Censor-Hillel.
- ◇ Research Internship at *Indian Institute of Science*, Bangalore May – July 2016  
Host: Siddharth Barman

## MANUSCRIPTS

- ◇ *Faster Set Cover in the MPC Model*, (under review)  
with Hongyan Ji, Sriram Pemmaraju, and Joshua Sobel.
- ◇ *A Parallel Algorithm for  $(3 + \varepsilon)$ -Approximate Correlation Clustering*, (under review)  
with Mélanie Cambus, and Jara Uitto.

## CONFERENCE PUBLICATIONS

- ◇ *Sinkless Orientation Made Simple*, in SOSA 2023  
with Alkida Balliu, Janne H. Korhonen, Fabian Kuhn, Henrik Lievonen, Dennis Olivetti, Ami Paz, Joel Rybicki, Stefan Schmid, Jan Studený, Jukka Suomela, and Jara Uitto.
- ◇ *Distributed Reconfiguration of Spanning Trees*, in SSS 2022 (Brief Announcement)  
with Siddharth Gupta, and Manish Kumar.
- ◇ *Deterministic Massively Parallel Algorithms for Ruling Sets*, in PODC 2022 (Brief Announcement)  
with Sriram Pemmaraju.
- ◇ *Risk-aware Temporal Cascade Reconstruction to Detect Asymptomatic Cases*, in ICDM 2021  
Hankyu Jang, *Shreyas Pai*, Bijaya Adhikari, and Sriram Pemmaraju.
- ◇ *Can we Break Symmetry with  $o(m)$  Communication?* in PODC 2021  
with Gopal Pandurangan, Sriram Pemmaraju, and Peter Robinson.
- ◇ *Sample-and-Gather: Fast Ruling Set Algorithms in the Low-Memory MPC Model*, in FSTTCS 2020  
with Kishore Kothapalli and Sriram Pemmaraju.
- ◇ *Connectivity Lower Bounds in the Broadcast Congested Clique*, in FSTTCS 2020 and PODC 2019 (Brief Announcement)  
with Sriram Pemmaraju.

	<ul style="list-style-type: none"> <li>◇ <i>Distributed Approximation on Power Graphs</i>, in PODC 2020 with Reuven Bar-Yehuda, Keren Censor-Hillel, Yannic Maus, and Sriram Pemmaraju.</li> <li>◇ <i>Spatiotemporal clustering of in-hospital Clostridioides difficile infection</i>, in ICHE 2019 <i>Shreyas Pai</i>, Philip Polgreen, Alberto Segre, Daniel Sewell, and Sriram Pemmaraju.</li> <li>◇ <i>A Constant Approximation for Colorful k-Center</i>, in ESA 2019 with Sayan Bandyapadhyay, Tanmay Inamdar, and Kasturi Varadarajan.</li> <li>◇ <i>Large-Scale Distributed Algorithms for Facility Location with Outliers</i>, in OPODIS 2018 with Tanmay Inamdar, and Sriram Pemmaraju.</li> <li>◇ <i>Near Optimal Clustering in the k-machine model</i>, in ICDCN 2018 with Sayan Bandyapadhyay, Tanmay Inamdar, and Sriram Pemmaraju.</li> <li>◇ <i>Symmetry Breaking in the Congest Model: Time- and Message-Efficient Algorithms for Ruling Sets</i>, in DISC 2017 and PODC 2017 (Brief Announcement) with Gopal Pandurangan, Sriram Pemmaraju, Talal Riaz, and Peter Robinson.</li> </ul>
JOURNAL PUBLICATIONS	<ul style="list-style-type: none"> <li>◇ <i>Risk-aware Temporal Cascade Reconstruction to Detect Asymptomatic Cases</i>, in KAIS 2022 Hankyu Jang, <i>Shreyas Pai</i>, Bijaya Adhikari, and Sriram Pemmaraju.</li> <li>◇ <i>Near Optimal Clustering in the k-machine model</i>, in TCS 2021 with Sayan Bandyapadhyay, Tanmay Inamdar, and Sriram Pemmaraju.</li> </ul>
FELLOWSHIPS	<ul style="list-style-type: none"> <li>◇ Ballard Seashore Fellowship, Spring 2021</li> <li>◇ Graduate College Summer Fellowship, Summer 2020 and 2019</li> <li>◇ Graduate College Post Comprehensive Fellowship, Fall 2019</li> </ul>
TEACHING EXPERIENCE	<ul style="list-style-type: none"> <li>◇ CS:4330 Theory of Computation, Teaching Assistant, Spring 2020</li> <li>◇ CS:3330 Algorithms, Section 2, Instructor, Spring 2017 (<a href="https://homepage.cs.uiowa.edu/~sriram/3330/spring17">https://homepage.cs.uiowa.edu/~sriram/3330/spring17</a>)</li> <li>◇ CS:1210 Computer Science 1: Fundamentals, Teaching Assistant, Fall 2016</li> </ul>
ACADEMIC SERVICE	<p><b>Conference Reviewer:</b>  ACM-SIAM Symposium on Discrete Algorithms (SODA).  ACM Symposium on Principles of Distributed Computing (PODC).  ACM Symposium on Parallelism in Algorithms and Architecture (SPAA).  International Symposium on Distributed Computing (DISC).  International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS).  Foundations of Software Technology and Theoretical Computer Science (FSTTCS).  International Conference on Distributed Computing and Networking (ICDCN).  International Colloquium on Structural Information and Communication Complexity (SIROCCO).  Conference on Principles of Distributed Systems (OPODIS).</p> <p><b>Journal Reviewer:</b>  Distributed Computing (DIST).</p> <p><b>Program Committee Member:</b>  International Conference on Distributed Computing and Networking (ICDCN) 2022.  International Conference on Distributed Computing and Intelligent Technology (ICDCIT) 2023</p>