Rachit Nimavat

CONTACT INFORMATION

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RESEARCH INTERESTS

My research area is the study of NP-hard combinatorial optimization problems. I work on the design of approximation algorithms and on hardness of approximation proofs for such problems involving graphs.

EDUCATION

Toyota Technological Institute at Chicago (TTIC)

3^{rd}*-year PhD Student* 2015 - Present

Advised by Prof. Julia Chuzhoy

GPA: 3.96/4

Expected year of graduation: 2020

Indian Institute of Technology Kanpur (IITK)

B.Tech, Computer Science and Engineering 2011 - 2015

GPA: 9.6/10

PUBLICATIONS AND MANUSCRIPTS

- *Improved Approximation Algorithm for Node-Disjoint Paths in Grid Graphs with Sources on Grid Boundary.*
  Julia Chuzhoy, David H. K. Kim and *Rachit Nimavat.*
  In **ICALP 2018**.

- *Almost Polynomial Hardness of Node-Disjoint Paths in Grids.*
  Julia Chuzhoy, David H. K. Kim and *Rachit Nimavat.*
  In **STOC 2018**. Gave a talk about this result at *Workshop on Approximation algorithms and Hardness of Approximation*, Banff, CA, Nov, 2017.

- *New Hardness Results for Routing on Disjoint Paths.*
  Julia Chuzhoy, David H. K. Kim and *Rachit Nimavat.*
  In **STOC 2017**. Invited to the **SICOMP STOC 2017** special issue.

B.TECH PROJECT

Study of Low Stretch Spanning Trees and Tree Metrics

Mentored by Prof. Surender Baswana 2014

Studied algorithms for finding low stretch spanning trees and tree metrics

Internships

Microsoft Research, Redmond
Mentored by Dr. Jonathan de Halleux Summer, 2014
Worked on a system for synthesizing automation scripts from natural language descriptions

Indian Institute of Science, Bangalore
Mentored by Prof. L. Sunil Chandran Summer, 2013
Studied Rainbow Matchings and Rainbow Connection Numbers for edge-colored graphs

Teaching Experience

TTIC: TA for
- *Algorithms*, Winter 2017
- *Approximation Algorithms*, Winter 2018

IITK: TA/Academic Mentor for
- *Data Structure and Algorithms*, 2014-15
- *Fundamentals of Computing*, 2014-15 & 2011-12
- *Mathematics I and II*, 2012-13

Awards

Received Academic Excellence Award for every academic year in IITK