

# Ramya Korlakai Vinayak

MC 136-93, 1200 E. California Blvd – Pasadena, CA 91125  
ramya@caltech.edu • [www.its.caltech.edu/~rkorlaka/](http://www.its.caltech.edu/~rkorlaka/)

## Education

<b>California Institute of Technology</b> Ph.D. in Electrical Engineering. Advisor: Prof. Babak Hassibi.	2013 – 2017 (expected)
<b>California Institute of Technology</b> M.S. in Electrical Engineering, GPA: 4.1/4.0.	2011–2013
<b>Indian Institute of Technology Madras</b> Bachelor of Technology, GPA: 9.6/10.0 (Major) and 9.5/10.0 (overall). Major: Electrical Engineering, Minor: Physics.	2007–2011

## Awards and Scholarships

- **Invited Participant at Rising Stars in EECS, MIT**, 2015.
- **Schlumberger Foundation Faculty for the Future Fellowship**, 2013-2015.
- **IITM Certificate of Academic Distinction**, 2010.
- **Indian Academy of Sciences Summer Research Fellowship**, Summer 2010.
- **OPJEMS Scholarship**, awarded by the OP Jindal Group of Industries (India) for outstanding performance in academics and leadership, 2008.
- **KVPY Fellowship**, (Young Researcher Fellowship) awarded by Indian Institute of Science, 2005.
- **NTSE Scholarship**, awarded by National Council of Education, Research & Teaching, India, 2005.

## Publications

### Peer-reviewed Conferences.....

- **R. K. Vinayak**, T. Zrnic, B. Hassibi, "Tensor-Based Crowdsourced Clustering via Triangle Queries," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2017.
- **R. K. Vinayak**, B. Hassibi, "Crowdsourced Clustering: Querying Edges vs Triangles," *Neural Information Processing Systems (NIPS)*, 2016.
- **R. K. Vinayak**, B. Hassibi, "Similarity Clustering in the Presence of Outliers: Exact Recovery via Convex Program," *IEEE International Symposium on Information Theory (ISIT)*, 2016.
- **R. K. Vinayak**, S. Oymak, B. Hassibi, "Graph Clustering With Missing Data: Convex Algorithms and Analysis," *Neural Information Processing Systems (NIPS)*, 2014.
- **R. K. Vinayak**, S. Oymak, B. Hassibi, "Sharp Performance Bounds for Graph Clustering via Convex Optimization," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2014.

### Workshops.....

- **R. K. Vinayak**, B. Hassibi, "Clustering by Comparison: Stochastic Block Model for Inference in Crowdsourcing," *Workshop on Crowdsourcing and Machine Learning, International Conference on Machine Learning (ICML Workshop)*, 2015.

## Teaching and Mentorship Experience

---

### Teaching Experience.....

1. **Stochastic Signal Processing** (Instructor: Prof. Babak Hassibi) Spring 2016  
Graduate Teaching Assistant, California Institute of Technology.  
(TA Evaluation Rating: 4.5/5.0)
2. **Advanced Algorithms** (Instructors: Prof. Thomas Vidik, Prof. Katrina Ligett) Spring 2015  
Graduate Teaching Assistant, California Institute of Technology.  
(TA Evaluation Rating: 5.0/5.0)
3. **Introduction to Stochastic Processes and Modeling** (Instructor: Prof. Joel Tropp) Fall 2012  
Graduate Teaching Assistant, California Institute of Technology.  
(TA Evaluation Rating: 5.0/5.0)

### Mentorship Experience.....

1. Mentee: Tijana Zrnic (Junior), University of Novi Sad, Novi Sad, Serbia. Summer 2016  
Project: "Tensor Factorization Based Algorithms for Clustering via Crowdsourcing."  
Graduate Student Mentor  
Summer Undergraduate Research Program, California Institute of Technology.
2. Mentee: Berk Özdalyan (Sophomore), California Institute of Technology. Summer 2015  
Project: "Randomized Methods for Large Scale Convex Clustering."  
Graduate Student Mentor  
Summer Undergraduate Research Program, California Institute of Technology.
3. Advisory Board Member (2014-2016), Women Mentoring Women (WMW) Program, Caltech Center for Diversity.

## Work Experience

---

### California Institute of Technology, Pasadena.

Graduate Research Assistant

2012–Present

### Google Inc., Mountain View.

Software Engineering Intern

June – Sept 2014

- Implemented and tested a multi-dimensional clustering technique to find rings of fraudulent nodes in advertising networks which is now a part of the spam detection pipeline for AdSense networks.
- Developed and tested tools for data preprocessing and dimensionality reduction for large datasets.

### AllGo Embedded Systems Pvt. Ltd., Bangalore.

Summer Intern

May – July 2009

- Developed and tested an application to establish a multicast network of Zigbee sensors in a Wireless Personal Area Network according to IEEE 802.15.4 Standard for home automation.

## Invited Talks

---

"What You Ask Is What You Get: Query Design & Robust Algorithms for Crowdsourced Clustering."

- SoCal ML Symposium, California Institute of Technology, Pasadena. Nov 2016
- Wireless Networking and Communications Group, Dept. of ECE, UT Austin. Oct 2016

"Graph Clustering with Missing Data: Convex Algorithms, Theoretical Guarantees & Practical Applications."

- SIAM Conference on Discrete Mathematics, Atlanta. June 2016