

Karthik Abinav Sankararaman

Department of Computer Science
University of Maryland, College Park

CONTACT INFORMATION

Phone: (+1) 240-715-5910

Address: A.V. Williams Building, UMD,
College Park, MD - 20742

Webpage: www.cs.umd.edu/~kabinav **Email:** kabinav@cs.umd.edu

INTERESTS

Design, analysis and applications of algorithms, Optimization, Probability and random processes

EDUCATION

University of Maryland, College Park

Started September 2014

College Park, Maryland, USA

Degree: PhD. in Computer Science (**GPA:** 4.0/4.0)

Advisor: Dr. Aravind Srinivasan

Indian Institute of Technology, Madras

July 2014

Chennai, India

Major: B.Tech Honours in Computer Science and Engineering (**GPA:** 9.01/10)

Minor: Operations Research

Thesis: Maximum Flow Problem in Undirected Graphs

Advisor: Dr. N.S. Narayanaswamy

PUBLICATIONS

- Yi-Chin Wu, **Karthik Abinav Sankararaman**, Stéphane Lafortune “Ensuring Privacy in Location-Based Services: An Approach Based on Opacity Enforcement”, *Proc. of the 14th International Workshop of Discrete Event Systems, pages 33-38, 2014*

MANUSCRIPTS

- Brian Brubach, **Karthik A Sankararaman**, Aravind Srinivasan, Pan Xu “Improved algorithms for Online Matching”, *Under Submission*
- **Karthik Abinav**, Saikrishna Badrinarayanan, C. Pandu Rangan, S. Sharmila Deva Selvi, S. Sree Vivek, Vivek Krishna Pradhan “A Revocable Online-Offline Certificateless Signature Scheme without Pairing”, *Cryptology ePrint Archive, Report 2013/758, 2013*

HONORS

- **Dean’s Fellowship:** University of Maryland, 2014, 2015
- Recipient of the *S.N. Bose Scholarship* 2013 given to **top 50** Indian students.
- Awardee of the National Talent Search examination Scholarship. Awarded to the **top 150 candidates** of India.
- 14th and 16th position in ICPC Mid-Atlantic regionals 2014 and ICPC Asia-Amritapuri regionals 2013 respectively.

RESEARCH EXPERIENCE

Probability and Stochastic Optimization

August 2014 - Present

University of Maryland, College Park

Joint work with Brian Brubach, Pan Xu, Aravind Srinivasan

Working on multiple problems such as Matching in Ad-allocation, improving certain concentration bounds, optimization in the context of harnessing solar power, randomized models for team performance

**Algorithms for Maximum Flow,
Graph Sparsification and related problems**

Aug 2013 - Aug 2014

Indian Institute of Technology, Madras

Area of Work: Graph Theory, Convex Optimization

Joint work with Narayanaswamy N.S.

Privacy in Location Based Services

May - July 2013

University of Michigan, Ann Arbor

Area of Work: Cyber Security

Joint work with Yi-Chin Wu, Stéphane Lafortune

**Revocable Online-Offline Signature Scheme without
Bilinear Pairing**

January - April 2013

Indian Institute of Technology, Madras

Area of Work: Cryptography

Joint work with Saikrishna Badrinarayanan, C. Pandu Rangan, Sharmila Devi, Sree Vivek

**TEACHING
EXPERIENCE**

Teaching Assistant, University of Maryland

Fall 2014, Spring 2015

CMSC250 - Discrete Structures

Responsibilities: Conducting Discussion Sessions, Office Hours, Grading Homeworks and Exams

Teaching Assistant, Indian Institute of Technology, Madras

August-December 2013

Paradigms of Programming

Responsibilities: Grading Programming Assignments

**PROFESSIONAL
EXPERIENCE**

Adobe Inc., San Jose, CA

May-August 2015

Data Scientist Intern with Algorithms Team in Digital Marketing

Responsibilities: Worked on Entity Resolution problem which helped multiple Adobe teams obtain cleaner source of data and reducing human efforts.

HyperVerge Technologies, Chennai

May-July 2014

Area of Work : Computer Vision, IOS application, PhoneGap

Responsibilities: Built a mobile application for a pre-startup to help get initial investors and technical mentors onboard

Teritree Technology Pvt. Ltd, Bengaluru

May-July 2012

Area of Work : Natural Language Processing, Databases

Responsibilities: Built a recommendation system for an early stage VC-funded startup

COURSE PROJECT

**Lower Bounds for Fault Tolerant Facility Placement
Problem**

September 2014 -December 2014

Course: Algorithmic Lower Bounds

Joint work with Thomas Pensyl, Bartosz Rybicki, Mohammad Taghi Hajiaghayi(Instructor)

COURSEWORK

Indian Institute of Technology, Madras

Complexity Theory, Approximation Algorithms, Algorithmic Algebra, Cryptography, Natural Language Processing, Convex Optimization, Theory Toolkit

University of Maryland, College Park

Algorithmic Lower Bounds, Logical Aspects in AI, Randomized Algorithms, Statistical Learning for Biology

**MISCELLANEOUS
ACTIVITIES**

Ball Following Bot

May-June 2011

Area of Work : Computer Vision, Microprocessor programming

Center for Innovation, IIT Madras

Prototype of a 3D Mouse

August-September 2011

Area of Work : Computer Vision

Finalist Industrial Defined Problems Challenge, General Electric

TOOLS

Programming Languages

C/C++, Java, Python, R, Lisp, Prolog, L^AT_EX

LAST UPDATED

August 2015