

Arthi Ramachandran

Curriculum Vitae

Education

- 2013–2017 **Ph.D. (Computer Science)**, *Columbia University*, NYC.
(expected) Research Interests: Data Mining, Machine Learning, Statistics, Social Networks
- 2011–2013 **M.Phil. (Computer Science)**, *Columbia University*, NYC.
- 2009–2011 **M.Sc. (Computer Science)**, *Columbia University*, NYC.
- 2004–2008 **B.S.E. (Computer Science)**, *Princeton University*, Princeton.
Certificate in Engineering and Management Systems

PhD Thesis

- Title *The Cost of Sharing Information in a Social World*
- Supervisor Professor Augustin Chaintreau
- Description This thesis furthers our understanding of the communication and information flow between participants in a social network. As a form of big data, social networks are characterized by its complex underlying relationships. We rely on data analysis and machine learning techniques to better model and predict these relationships. We leverage these relationships to study for both predictive and descriptive analysis.

Awards

Academic

- 2010 NSF Graduate Research Fellowship
- 2010 Microsoft Research Graduate Women's Scholarship
- 2009 Computer Science Chair's Distinguished Fellowship

Service

- 2012, 2013 Computer Science Service Award
- 2011 Michelman Award for Service to the Computer Science Department

Technical Expertise

- Data analysis Specializing in social network data (both structural and language-based information)
- ML Machine Learning, with emphasis on applications
- Modeling Mathematical and economic modeling techniques

Languages

Scripting including Python (fluent), Bash (fluent), and SQL
Statistical including R (fluent)
Programming including Java and C/C++

Experience

Summer 2014 **Data Science Intern**, BETAWORKS, NYC.
Worked on a new product to identify twitter communities and understand the content being shared, through automatic labeling of communities

2008–2009 **Technology Analyst**, GOLDMAN SACHS, NYC.
Worked in Commodities Sales and Trading Technology to build and support platforms and tools for trading, sales, and operations using their proprietary system.

Summer 2007 **Technology Analyst Intern**, BRIDGEWATER ASSOCIATES, Westport, CT.
Worked in the Operations Department on several short term projects.

Selected Projects

Click Prediction and Estimation

Analyzed characteristics of news sharing on twitter. We developed a method to accurately estimate click rates from publicly available data. We also studied methods to predict click rates from features based on diffusion characteristics.

Information sharing economy

Analyzed how information is shared on Twitter, using game theory and economic models of public goods. We found that shelf time, which characterizes the rate at which content get renewed, is a critical factor in audience participation.

Deanonymization using browsing behavior

We empirically identify twitter users under various browsing behavior regimes, using techniques from statistics, and data modeling.

Raaga Identification in South Indian Classical Music (Undergraduate Senior Thesis)

Applied machine learning techniques to classify South Indian classical music.

Manuscripts

A. Ramachandran and A. Chaintreau. *Wisdom of Private Crowds*. (in preparation)
L. Wang, **A. Ramachandran**, and A. Chaintreau. *Prediction of Click and Share Dynamics on Social Media*. (in preparation)

Papers

2016 M. Gabielkov, **A. Ramachandran**, A. Chaintreau, and A. Legout. *Social Clicks: What and Who Gets Read on Twitter?* ACM SIGMETRICS, Antibes Juan-les-Pins, France
News Coverage: [Columbia Data Science](#) and [Washington Post](#)

- 2016 L. Wang, **A. Ramachandran**, and A. Chaintreau. *Measuring Click and Share Dynamics on Social Media: A Reproducible and Validated Approach*. Workshop on News and Public Opinion, Cologne, Germany
- 2015 **A. Ramachandran** and A. Chaintreau. *Who Contributes to the Knowledge Sharing Economy?* Conference on Online Social Networks, Stanford, CA
Short-listed for Best Paper Award.
- 2015 **A. Ramachandran** and A. Chaintreau. *The Network Effects of Privacy Choices*. Workshop on the Economics of Networks, Systems and Computation, Portland, OR
- 2014 **A. Ramachandran**, Y. Kim and A. Chaintreau. *I knew they clicked when I saw them with their friends*. Conference on Online Social Networks, Dublin, Ireland
- 2012 A. Gusev, M. J. Shah, E. E. Kenny, **A. Ramachandran**, J. K. Lowe, et al. *Low-Pass Genome-Wide Sequencing and Variant Inference Using Identity-by-Descent in an Isolated Human Population*. Genetics
- 2011 **A. Ramachandran**, M. Micsinai, and I. Pe'er. *CONDEX: COpy Number Detection in EXome Sequencing*. In Proceedings of Workshop on Computational Advances in Molecular Epidemiology, Atlanta, GA

Teaching Experience

- 2012, 2013 **Teaching Assistant**, COLUMBIA UNIVERSITY, Computational Genomics.
- 2006, 2007 **Laboratory Teaching Assistant**, PRINCETON UNIVERSITY, Logic Design.
- 2005–2008 **Tutor**, PRINCETON UNIVERSITY, Introductory college math and computer science.

Activities

- 2011 **Organizer**, CS4HS, Columbia University.
Organized workshop to introduce computer science concepts to high school math and science teachers
- 2010–2012 **Graduate Coordinator**, EMERGING SCHOLARS PROGRAM, Columbia University.
Organized introductory level computer science workshop-based course
- 2009–present **Member**, WOMEN IN COMPUTER SCIENCE, Columbia University.
- 2011–2013 **Vice-President**, WOMEN IN COMPUTER SCIENCE, Columbia University.
- 2010–2011 **President**, WOMEN IN COMPUTER SCIENCE, Columbia University.
- Summer 2005 **Volunteer**, RASA - CENTRE FOR THEATRE ARTS AND SPECIAL NEEDS, Chennai, India.
Teaching assistant, helping to impart basic skills to mentally challenged children in the age group of 5 to 15