# Pradeep Kumar Murukannaiah

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## Education

- **PhD in Computer Science** **2016**
  *North Carolina State University* *Raleigh, NC*
  Advisor: Professor Munindar P. Singh
- **MS in Computer Science** **2011**
  *North Carolina State University*
  GPA: 4.0
- **BE in Information Science and Engineering** **2005**
  *University Visvesvaraya College of Engineering* *Bangalore*
  First Class with Distinction

## Awards and Fellowships

- **Outstanding Research Award** **2016**
  *Department of Computer Science, North Carolina State University*
- **Dean's Postdoctoral Fellowship** **2016–2017**
  *Department of Software Engineering, Rochester Institute of Technology*

## Research Experience

- **Postdoctoral Research Scientist** **May 2016–Present**
  *Department of Software Engineering, Rochester Institute of Technology* *Rochester, NY*
  Advisor: Professor Naveen Sharma

  Project: **Exploiting crowdsourcing and crowdsensing for software engineering**
  - Representing and reasoning about crowd-acquired privacy requirements
  - Sensing privacy requirements "in context"

- **Graduate Research Assistant** **Jan 2010–May 2016**
  *Department of Computer Science, North Carolina State University*

  Project 1: **Engineering context-aware personal agents**
  - Methodology and middleware for engineering personal agents
  - Machine learning mobile social context from sensor data
  - Exploiting context in social networks for recommendation

  Project 2: **Engineering multiuser privacy**
  - Reasoning about privacy in multiuser settings based on context, preferences, and arguments

  Project 3: **Understanding and recognizing privacy incidents**
  Advisor: Dr. Jessica Staddon
  - Understanding privacy perceptions via crowdsourcing
  - Automated techniques for curating a privacy incidents database

  Project 4: **Analyzing competing requirements**
  - Resolving goal conflict via argumentation-based analysis of competing hypotheses

## Teaching and Mentoring Experience

- **Teaching Assistant** **2010–2015**
  *Department of Computer Science, North Carolina State University*
  Courses: Services-oriented computing (five times), Graph theory (once)
  - Conceived, designed and evaluated programming assignments
  - Held office hours to assist students on course material and assignments
- **Term Project Mentor** **2014–2015**
  *Department of Computer Science, North Carolina State University*
  Courses: Social computing (twice)
  - Advised students on designing and conducting semester-long projects
- **PhD Student Mentor** **2016**
  *Department of Software Engineering, Rochester Institute of Technology*
  - Advising a junior PhD student on conducting literature review, defining research problems, and conducting experiments

## Professional Activities

- **PhD Symposium Co-Chair** **2016**
  *Doctoral Symposium on Foundations and Applications of Self-∗Systems (FAS∗W)*
- **Information Director** **2013–2016**
  *ACM Transactions on Internet Technology*
- **Program Committee Member**
  - IEEE International Conference on Cloud and Autonomic Computing (ICCAC) 2016
  - IEEE International Conference on Mobile Services 2013, 2015
  - International Workshop on Multiagent Foundations of Social Computing 2014, 2015
  - International Conference on Emerging Ubiquitous Systems & Pervasive Networks 2015
- **Conference External Reviewer**
  - AAAI Conference on Artificial Intelligence 2012
  - Twelfth Symposium on Usable Privacy and Security (SOUPS) 2016
- **Journal Reviewer**
  - ACM Transactions on Internet Technology 2016
  - Empirical Software Engineering 2015
  - IEEE Internet Computing 2011, 2013, 2015
  - ACM Transactions on Intelligent Systems and Technology 2013, 2014, 2015
  - IEEE Transactions on Services Computing 2014, 2015, 2016
- **Journal Co-reviewer**
  - IEEE Transactions of Software Engineering 2016

## Development Experience

- **Intern, Google, Inc.** **Summer 2011**
  *AdPlanner Demographics Team* *Seattle*
  - Developed machine learning techniques for predicting demographics
- **Intern, Duke University Medical Center** **Summer 2009**
  *Neurobiology of Vocal Communication Lab* *Durham, NC*
  - Migrated a songbird transcriptome database from XML to relational
- **Software Engineer, Alcatel-Lucent** **Jul 2005–Dec 2008**
  *Optical Networks Management System* *Bangalore*
  - Administered an Oracle database

## Publications

### Refereed Journal Papers

J1. **Platys: An active learning framework for place-aware application development and its evaluation.** **TOSEM '15**
PK Murukannaiah and MP Singh
*ACM Transactions on Software Engineering and Methodology, 24(3):1–33, 2015.*

J2. **Platys: From position to place-oriented mobile computing.** **AI Magazine '15**
L Zavala, PK Murukannaiah, N Poosamani, T Finin, A Joshi, I Rhee, and MP Singh.
*AI Magazine, 36(2):50–62, 2015.*

J3. **Platys Social: Relating shared places and private social circles.** **IC '12**
PK Murukannaiah and MP Singh.
*IEEE Internet Computing, 16(3):53–59, 2012.*

### Journal Columns

J4. **Engineering privacy in social applications.** **IC '16**
PK Murukannaiah, N Ajmeri, and MP Singh.
*IEEE Internet Computing, 20(2):72–76, 2016.*

J5. **Understanding location-based user experience.** **IC '14**
PK Murukannaiah and MP Singh.
*IEEE Internet Computing, 18(6):53–59, 2014.*

### Refereed Conference Papers

C6. **Acquiring creative requirements from the crowd: Understanding the influences of individual personality and creative potential in crowd-RE** **RE '16**
PK Murukannaiah, N Ajmeri, and MP Singh.
*In IEEE 24th International Requirements Engineering Conference, 1–10, 2016.*

C7. **Resolving goal conflicts via argumentation-based analysis of competing hypotheses** **RE '15**
PK Murukannaiah, AK Kalia, PR Telang, and MP Singh.
*In IEEE 23rd International Requirements Engineering Conference, 156–165, 2015.*

C8. **TRACE: A dynamic model of trust for people-driven service engagements.** **ICSOC '15**
AK Kalia, PK Murukannaiah, and MP Singh.
*In Proc. 13th International Conference on Service Oriented Computing, 353–361, 2015.*

C9. **Xipho: Extending Tropos to engineer context-aware personal agents.** **AAMAS '14**
PK Murukannaiah and MP Singh.
*In Proc. International Conference on Autonomous Agents and MultiAgent Systems, 309–316, 2014.*

C10. **Exploiting sentiment homophily for link prediction.** **RecSys '14**
G Yuan, PK Murukannaiah, Z Zhang, and MP Singh.
*In Proc. ACM Conference on Recommender Systems ,17–24, 2014.*

C11. **Structure discovery queries in disk-based Semantic Web databases.** **SKG '08**
K Anyanwu, PK Murukannaiah, and A Maduko.
*In Proc. IEEE International Conference on Semantics, Knowledge, and Grid 336–342, 2008.*

### Papers Under Review

R12. **Sharing policies in multiuser privacy scenarios: Incorporating context, preferences, and arguments in decision making.** **TOCHI '16**
R Fogues, PK Murukannaiah, J Such,and MP Singh.
*Submitted to ACM Transactions on Computer-Human Interaction, 1–24, 2016.*

R13. **Title omitted for anonymity.** **ASONAM '16**
G Yuan, PK Murukannaiah, and MP Singh.
*Submitted to the International Conference on Advances in Social Networks Analysis and Mining, 1–10, 2016.*

## Invited Conference Papers

C14. **PrIncipedia: A privacy incidents encyclopedia** **PLSC '16**
PK Murukannaiah, J Staddon, H Lipford, and B knijnenburg.
*The 9th Annual Privacy Law Scholars Conference, 2016.*

## Book Chapter

B15. **Dimensionality reduction.** **Graph Mining '13**
MR Marri, L Ramachandran, PK Murukannaiah, et al.
*In Practical Graph Mining with R, CRC Press, 2013.*

## Refereed Workshops, Demos, and Symposia

O16. **Argumentation for multi-party privacy management (Position paper)** **ACySe '15**
R Fogues, PK Murukannaiah, JM Such, A Espinosa, A Garcia-Fornes, and MP Singh.
*International Workshop on Agents and CyberSecurity, 2015.*

O17. **Reasoning about context and engineering context-aware agents (Doctoral Cons.)** **AAMAS '14**
PK Murukannaiah
*In Proc. International Conference on Autonomous Agents and MultiAgent Systems, 1733–1734, 2014.*

O18. **Platys: a framework for supporting context-aware personal agents (Demo.)** **AAMAS '14**
PK Murukannaiah, R Fogues, and MP Singh.
*In* Proc. International Conference on Autonomous Agents and MultiAgent Systems, 1689–1690, 2014.

O19. **Platys: User-Centric Place Recognition.** **AAAI WS '13**
C-W Hang, PK Murukannaiah, and MP Singh.
*AAAI Workshop on Activity Context-Aware System Architectures, 2013.*