Baishakhi Ray

Electrical & Computer Engineering
The University of Texas at Austin
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Research Interest

I am primarily interested in Empirical Software Engineering, in particular, analyzing large scale software repository data to better understand software engineering practices. Based on this understanding, I also like to develop novel approaches and tools to improve software maintainability and program correctness.

Education

Ph. D. candidate, Electrical & Computer Engineering, University of Texas, Austin. August 2010 - August 2013 (GPA: 3.97)
Thesis topic: Analysis of Cross-System Porting and Porting Errors in Software Projects
Advisor: Prof. Miryung Kim

MS, Computer Science, University of Colorado, Boulder,
May 2009 (GPA: 4.0)
Thesis topic: SecureWear: Securing Wearable Mobile Social Networks
Advisor: Prof. Richard Han

B.Tech. & B.Sc., Computer Science & Physics, Calcutta University,
2004 (GPA: 3.84, Top 1% in University)

Honors

Google Summer of Code 2012 (mentors: Dr. Suzette Person & Dr. Neha Rungta, NASA)

SIGSOFT FSE 2012 CAPS travel award

Jawaharlal Nehru Summer Scholarship for Advanced Research, India 2001.

Selected Publications:

1. **Detecting and Characterizing Semantic Inconsistencies in Ported Code.** by *Baishakhi Ray*, Miryung Kim, Suzette Person, Neha Rungta (ASE 2013)
2. **An Empirical Study of API Stability and Adoption in the Android Ecosystem.** by Tyler McDonnell, *Baishakhi Ray*, Miryung Kim (ICSM 2013)
3. **A Case Study of Cross-System Porting in Forked Projects.** by *Baishakhi Ray*, Miryung Kim (FSE 2012).
4. **Repertoire: A Cross-System Porting Analysis Tool for Forked Software Projects.** by *Baishakhi Ray*, Christopher Wiley, Miryung Kim (FSE 2012, Tool Demo).

5. **An Empirical Study of Supplementary Bug Fixes.** Jihun Park, Miryung Kim, *Baishakhi Ray*, DooHwan Bae (MSR 2012).
6. **PTask: Operating System Abstractions To Manage GPUs as Compute Devices.** by CJ Rossbach, J Currey, M Silberstein, *Baishakhi Ray*, E Witchel, (SOSP 2011).
7. **A Protocol for Building Secure and Reliable Covert Channel.** by *Baishakhi Ray* and S. Mishra (PST 2008).

Industry Experience

Research Intern, Microsoft Research, May,2013–August,2013
Empirical Software Engineering Group,
Redmond, WA
Analyzed correlation between program changes and bug fixes.

Software Engineer, Ericsson Pvt. Ltd.,CO Feb,2009–June,2010
Developed SCTP (Stream Control Transmission Protocol) stack.

Summer Research Internship, Avaya, CO May,2008–Aug,2008
Designed and implemented a mobile application to periodically send location information during a SIP call in S60 platform.

Software Engineer, Ixia Communication Oct,2005–July,2007
Designed and developed a virtual Network Interface Card driver in Windows.

Software Engineer, Texas Instruments Aug,2004–Oct,2005
Implemented camera device and image processing unit on a GSM-only ARM7 platform.

Professional Activities

Program Committee: OOPSLA Artifact Evaluation 2013.

Reviewer: CSI Journal

External Reviewer: MSR 2012, OOPSLA 2012

Vice President, Graduate Women in Engineering, ECE Department, UT Austin

References

Prof. Miryung Kim, `miryung@ece.utexas.edu`

Dr. Thomas Zimmermann, `tzimmer@microsoft.com`

Dr. Suzette Person, `suzette.person@nasa.gov`