Lu Xiao

School of Systems and Enterprises
Stevens Institute of Technology, Hoboken, NJ
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RESEARCH INTERESTS

I enjoy doing research in Software Engineering. I am particularly interested in software architecture, software evolution, software maintenance, and software economics.

EDUCATION

Drexel University, Philadelphia, PA   9/2011-9/2016
   Ph.D., Computer Science
   Research Direction: Software Engineering
   Advisor: Dr. Yuanfang Cai

Missouri University of Science and Technology, Rolla, MO   6/2009-5/2011
   Ph.D., Computer Science (Transferred to Drexel University)
   Research Direction: Database
   Advisor: Dr. Dan Lin

Beijing University of Posts and Telecommunications, China   9/2005-6/2009
   BE in Network Engineering

HONORS AND AWARDS

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1. **Outstanding Graduate Student Research Award**, College of Computing & Informatics, Drexel University   **2016**

2. **1st Prize** at the inter-disciplinary Grand Finals of the **ACM Student Research Competition**, awarded during the ACM Turing Award banquet, San Francisco, June 20th   **2015**

3. **ACM SIGSOFT CAPs Funds** for graduate student travel to the 23nd ACM SIGSOFT International Symposium on Foundations of Software Engineering   **2015**

4. **1st Prize** at the **Student Research Competition** at the 22nd ACM SIGSOFT International Symposium on Foundations of Software Engineering   **2014**

5. **Student Travel Award** at the 22nd ACM SIGSOFT International Symposium on Foundations of Software Engineering   **2014**

6. **The Leroy Resser Endowed Fellowship Fund**, Drexel University   **2012-2013**

7. **Dean's Fellowship**, Drexel University   **2011-2012**

PROFESSIONAL APPOINTMENTS

Stevens Institute of Technology, Hoboken, NJ: Assistant Professor	**Starting from 9/2016**
Drexel University, Philadelphia: Research Assistant	**9/2011-9/2016**
Siemens Corporate Research, New Jersey: Research Intern	**4/2012-9/2012**
Missouri Univ. of Sci. and Tech., Rolla, MO: Research Assistant	**9/2009-5/2011**

1. On the Interaction of Design Rule Space and Bug Space
   Yuanfang Cai and **Lu Xiao**
   US Provisional Patent Application – 61/880,289 – Filed 09/20/2013.

2. Metric for Architectural Maintenance Complexity and Identifying and Quantifying Architectural Debt
   Yuanfang Cai, **Lu Xiao**, Rick Kazman, and Ran Mo
   US Provisional Patent Application – 62/269,559 - Filed on 12/ 2015.

PUBLICATIONS

14 total, 13 in software engineering, 1 in database.
Full Conference Paper:

1. Towards an Architecture-Centric Approach to Security Analysis
   Qiong Feng, Rick Kazman, Yuanfang Cai, Ran Mo, and **Lu Xiao**
   WICSA 2016, 13th Working IEEE/IF IP Conference on Software Architecture. Pages 221-230. Venice, Italy, April 5 - 8, 2016.

2. Identifying and Quantifying Architectural Debts
   Lu Xiao, Yuanfang Cai, Rick Kazman, Ran Mo, and Qiong Feng
   ICSE 2016, Research Track, Proceedings of the 38th International Conference on Software Engineering. Pages 488-498. Austin, US, May 14 - 22, 2016.
   Acceptance rate 19%.

3. Decoupling Level: A New Metric for Architectural Maintenance Complexity
   Ran Mo, Yuanfang Cai, Rick Kazman, **Lu Xiao**, and Qiong Feng
   ICSE 2016, Research Track, Proceedings of the 38th International Conference on Software Engineering. Pages 499-510. Austin, US, May 14 - 22, 2016.
   Acceptance rate 19%.

4. A Case Study in Locating the Architectural Roots of Technical Debt
   Rick Kazman, Yuanfang Cai, Ran Mo, Qiong Feng, **Lu Xiao**, Serge Haziyev, Volodymyr Fedak, and Andriy Shapochka
   ICSE 2015, Industry Track, Proceedings of the 37th International Conference on Software Engineering. Pages 179-188. Florence, Italy, May 16 - 24, 2015.
   Acceptance rate 22.5%.

5. Hotspot Patterns: The Formal Definition and Automatic Detection of Architecture Smells
   Ran Mo, Yuanfang Cai, Rick Kazman and **Lu Xiao**
   WICSA 2015, Research Track, 12th Working IEEE/IFIP Conference on Software Architecture. Pages 51-60. Montreal, Canada, May 4-7 2015.
   Acceptance rate 28.4%.

6. A Study on the Role of Software Architecture in the Evolution and Quality of Software
   Ehsan Kouroshfar, Mehdi Mirakhorli, Hamid Bagheri, **Lu Xiao**, Sam Malek, and Yuanfang Cai
   MSR 2015, Research Track, Proceedings of the 12th Working Conference on Mining Software Repositories. Pages 246-257. Florence, Italy May 16 - 18, 2015.
   Acceptance rate 30%.

7. Design Rule Spaces: a New Form of Architecture Insight
   Lu Xiao, Yuanfang Cai, and Rick Kazman
   ICSE 2014, Research Track, Proceedings of the 36th International Conference on Software Engineering. Pages 967-977. Hyderabad, India, May 31 - June 7, 2014.
   Acceptance rate 20%.

8. A Replication Case Study to Measure the Architectural Quality of a Commercial System
   Derek Reimanis, Clemente Izurieta, Rachael Luhr, **Lu Xiao**, Yuanfang Cai, and Gabe Rudy

ESEM 2014, Industry Track, Proceedings of the 8th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, Article No. 31. Torino, Italy, Sept. 18-19 2014. **Acceptance rate 18.7%**.

9. Measuring Architecture Quality by Structure plus History Analysis
   Robert Schwanke, **Lu Xiao**, and Yuanfang Cai
   ICSE 2013, Industry Track, Proceedings of the 2013 International Conference on Software Engineering. Pages 891-900. San Francisco, CA, USA, May 18 - 23, 2013.
   Acceptance rate 20%.

10. A Moving-Object Index for Efficient Query Processing with Peer-Wise Location Privacy
    Dan Lin, Christian S. Jensen, Rui Zhang, **Lu Xiao**, Jiaheng Lu
    VLDB 2012, Research Track, Proceedings of International Conference on Very Large Data Bases. Pages 37-48. Istanbul, Turkey, 2012.
    Acceptance rate 20.3%.

Tool Demonstration:

11. Titan: a Toolset that Connects Software Architecture with Quality Analysis
    Lu Xiao, Yuanfang Cai, and Rick Kazman
    FSE 2014, Proceedings of the 22nd ACM SIGSOFT International Symposium on Foundations of Software Engineering. Pages 763-766. Hong Kong, China, Nov 16-21, 2014.

Doctoral Symposium:

12. Quantifying Architectural Debt
    Lu Xiao
    FSE 2015, Proceedings of the 2015 10th Joint Meeting on Foundations of Software Engineering. Pages 1030-1033. Bergamo, Italy, Aug. 30 - Sept. 4, 2015.

Book Chapter:

13. A Decision-Support System Approach to Economics-Driven Modularity Evaluation
    Yuanfang Cai, Rick Kazman, Carlos V.A. Silva, **Lu Xiao**, and Hong-Mei Chen
    in Ivan Mistrik, Rami Bahsoon, Rick Kazman, and Yuanyuang Zhang, *Economics-Driven Software Architecture, 1st Edition* , Pages 105-126, June 18, 2014, Morgan Kaufmann Imprint.

Journal Paper:

14. Manufacturing Execution Systems: A Vision for Managing Software Development
    Martin Naedele, Hone-Mei Chen, Rick Kazman, Yuanfang Cai, **Lu Xiao**, Carlos V.A. Silva
    JSS 2015, Journal of Systems and Software, Volumne 101, March 2015, Pages 59-68.
    Impact factor 1.485.

TEACHING EXPERIENCE

Drexel University

Teaching Assistant, CS451: Software Engineering	**Summer 2016**
Teaching Assistant, CS350: Software Design	**Spring 2016**
Teaching Assistant, CS451: Software Engineering	**Winter 2015**
Teaching Assistant, CS350: Software Design	**Fall 2015**

Missouri University of Science and Technology

Teaching Assistant, CS238: File Structure and Introduction to Database System	**Spring 2011**
Teaching Assistant, CS238: File Structure and Introduction to Database System	**Fall 2010**
Teaching Assistant, CS238: File Structure and Introduction to Database System	**Spring 2010**
Teaching Assistant, CS238: File Structure and Introduction to Database System	**Fall 2009**

PROFESSIONAL ASSOCIATIONS

Member of Upsilon Pi Epsilon Honor Society for the Computing and Information Disciplines	**since 2015**
Student Member of ACM SIGSOFT	**since 2015**
Student Member of ACM	**since 2014**
Student Member of IEEE	**since 2013**
Student Member of Women in Computing, Drexel Chapter	**since 2011**