

Yin Liu

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Objective:

- *A challenging and exciting position to pursue innovative research and development in the area of software engineering and related fields that would best utilize expertise in program analysis, information flow analysis, feature location, and software metrics.*

Research Interests:

- Static Program Analysis and its applications: Information Flow Analysis, Ownership and Immutability Analyses.
- Software Reliability
- Feature Location with Information Retrieval

Education:

- **08/04-Present Ph.D Student in Computer Science**, Rensselaer Polytechnic Institute(RPI), Troy, NY. GPA 4.0.
- **09/99-07/03 BS in Computer Science&Technology**, Peking University(PKU), Beijing, China. Grade: 87/100 (TOP 10%).

Publications:

- **Yin Liu** and Ana Milanova, **Ownership and Immutability Inference for UML-Based Object Access Control**, *ACM SIGSOFT/IEEE International Conference on Software Engineering (ICSE 2007)*, May 2007.
- **Yin Liu** and Ana Milanova, **Static Analysis for Dynamic Coupling Measures**, *16th IBM Centre for Advanced Studies Annual International Conference on Computer Science and Software Engineering (CASCON 2006)*, October 2006.
- Wei Zhao, Lu Zhang, **Yin Liu**, Jiasu Sun and Fuqing Yang, **SNIAFL: Towards a Static Non-Interactive Approach to Feature Location**, *ACM Transactions on Software Engineering and Methodology (TOSEM)*, April 2006, Volume 15, Issue 2, Pages 195 - 226.
Invited from ICSE 2004 as one of the best papers.
- Wei Zhao, Lu Zhang, **Yin Liu**, Jiasu Sun and Fuqing Yang, **SNIAFL: Towards a Static Non-Interactive Approach to Feature Location**, *26th International Conference on Software Engineering (ICSE)*, May 2004. **Distinguished Paper Award.**
- Wei Zhao, Lu Zhang, **Yin Liu**, Jing Luo and Jiasu Sun, **Understanding How the Requirements Are Implemented in Source Code**, *10th Asia-Pacific Software Engineering Conference(APSEC)*, Dec. 2003.
- (in Chinese) Huang Huang, Xin Zhou, **Yin Liu** and Jiasu Sun, **Principal Metric Analyst Design in Metric Model Construction**, *National Applications and software Academic Conference(NASAC) Collection*, December 2003.
- (in Chinese) Huang Huang, **Yin Liu**, Xin Zhou and Jiasu Sun, **An Architecture of Object Oriented Software Metrics Tool**, No.27 of *COMPUTER ENGINEERING AND APPLICATIONS*, September 2003.

Experience:

07/2005-Present Graduate Research Assistant, Software Engineering Group, RPI.

- Explore the application of static program analysis in enforcing security policies in Distributed Systems. *In Progress.*
- Define and Implement a mechanism to infer Ownership and immutability class relationship for UML-based object access control. *Publication in ICSE 2007.*

- Designed and implemented a static analysis framework to gather dynamic coupling metric information to approximate the possible interactions between run-time objects for both complete and incomplete programs. *Publication in CASCON 2006.*

08/2004-05/2005 Graduate Teaching Assistant, Computer Science Department, RPI.

02/2004-07/2004 Software Engineer, Testing Group, Sohu Company, Beijing, China.

- Search Engine response time testing, robotic and pressure testing;
- Unit Testing with C++Unit Framework, both black-box and white-box testing.

07/2003-02/2004 Research Assistant, Software Engineering Lab, PKU, China.

- Use the information retrieval technology to reveal the basic connections between features and computational units in source code. *Publication in ICSE 2004.*
- Find the fragment of source code that is corresponding to the implementation of each requirement in documentation. *Publication in APSEC 2003.*

03/2002-07/2003 Undergraduate Assistant, Software Engineering Lab, PKU, China.

- Object Oriented Design Metric System, a on-line metric collection model for designs and programs.
- China 863 program Software Metric Tool.
- Program Understanding System.

Relevant Computer Skills:

- Operating Systems: Windows, Unix, Linux, Solaris, FreeBSD.
- Programming Languages: C, C++, Java, Python, OpenJava, Prolog, Jocaml, OZ, SALSA, Pascal, Assembly (X86 family).
- Compiler Tools: Lex/Yacc, Soot.
- Programming Paradigms: Distributed programming, Multithreaded programming.

Honors and Awards

- SigSoft CAPS student travel fund for ICSE 2007.
- International Conference on Software Engineering(ICSE) 2004 Distinguished Paper Award.
- TaiHua 2002 Scholarship Honor.
- Excellent Student 2002 Award.
- GuangHua 2001 Scholarship Honor.
- Excellent Student 2001 Award.