

# Yangqingwei Shi

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## EDUCATION & PROFESSIONAL EXPERIENCE

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- 2012-PRESENT BS Candidate in Computer Science, School of Electronics Engineering and Computer Science, **Peking University**  
OVERALL GPA: 3.69/4.00 | MAJOR GPA: 3.74/4.00
- FEB-JUNE 2014 Teaching Assistant, School of Electronics Engineering and Computer Science, **Peking University**  
COURSE: Algorithm Design and Analysis | TEACHER: Haiyan Zhao
- 2014-PRESENT Research Assistant at Software Engineering Institute, **Peking University**  
RESEARCH FIELDS: Software Testing; Program Analysis & Optimization | ADVISOR: Yingfei Xiong
- JULY-SEP. 2015 Research Internship at Computer Science Department, **Carnegie Mellon University**  
RESEARCH FIELDS: Programming Languages; Software Architecture | ADVISOR: Jonathan Aldrich

## RESEARCH PROJECTS

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- ONGOING **Dynamic Mutation Analysis** (Software Testing, Program Analysis | C++)  
Supervisor: Dr. Yingfei Xiong      Software Engineering Institute, Peking University
- Developed a novel model of mutation analysis that analyzes mutants during the execution of the program, and forks the execution only when a mutant leads to a new system state.
  - Prepared the manuscript and submitted to submitted to ICSE 2016, pending review
- 2015 **Language Based Architectural Control** (Software Architecture, Programming Languages | Java)  
Supervisor: Dr. Jonathan Aldrich      Institute of Software Research, Carnegie Mellon University
- Extended a module system based on Wyvern Language to enforce the architectural behavior by integrating these architectural descriptions directly into the language.
- 2014-2015 **Contextual Dynamic QR Code** (Mobile Computing | HTML+Servlet+Android)  
Supervisor: Dr. Kaigui Bian      Institute of Network Computing and Information Systems, Peking University
- Initiated a novel QR code system which accepts inputs from many phone sensors besides the phone camera, and dynamically vary its output according to various contexts where the code is published.
  - Corresponding patent accepted by State Intellectual Property Office of China; Manuscript submitted to IEEE ICC 2016, pending review

## AWARDS

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- OCT. 2013 Outstanding Academic Award of Peking University (top 10%)
- MAY. 2014 3rd Prize of 13th ACM Programming Contest in Peking University
- OCT. 2014 Wusi Scholarship of Peking University (top 10%)

## COURSE PROJECTS

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- FALL 2012 Poem Search Engine Based on LSI System (C+MATLAB | Independent)
- FALL 2013 Vi-like Text Editor Based on NCurses (C++ | Group Leader)
- FALL 2013 ICS Labs (Data, Bomb, Attack, Arch, Cache, Malloc, Shell, Proxy | Independent)
- SPRING 2014 A Scheme Metacircular Evaluator (Scheme | Independent)
- SPRING 2014 Metaheuristics for Float-Point Inaccuracy Detection (Independent)
- FALL 2014 5-Step MiniJava to MIPS Compiler (Java | Independent)
- SPRING 2015 TuanJuPKU, a Platform for PKU Unions (Android+HTML | Group)
- SPRING 2015 A Programming Language for Complexity Control (OCaml | Group)
- SPRING 2015 Face Mock Show on WebChat (HTML+Python | Group)

## SKILLS

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- PROGRAMMING: Java, C, C++, Python, Web, Scheme, OCaml, Android
- TOOLS: Linux, Git, LaTeX, MATLAB
- ENGLISH: TOEFL 106 (R28+L27+S23+W28) | GRE V157+Q170+AW3.5