

# Jingpei Yang

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San Francisco, Bay Area  
Computer Software

## SUMMARY

- Strong programming skills in C/C++ and Java
- Solid knowledge of data structures and algorithms
- Fast and effective learner with creative thinking.
- Strong analytical/problem solving skills and collaborative spirit

## Specialties

- Flash Memory, Solid-State Disks (SSDs), Storage Systems, File Systems

## Experience

- **Software Engineer (Intern)** Jan 2012-present  
Fusion-io, R&D Department, Advanced Development and Performance Group
  - Prototype and conduct proof of concept evaluations for technology and architecture ideas for next generation ioDrive
  - Characterize and evaluate performance. Create and demonstrate performance optimization for technologies ahead of new ioDrive development
- **Graduate Student Researcher** Sept 2009-Dec 2011  
University of California, Santa Cruz
  - Storage research with a focus on Solid-State Disks, flash memory, and non-volatile memory
  - Design new file system modules for non-volatile memory with high performance and reliability, and provide guidelines for future designs
  - Reviewer for FAST 2012, ACM TC 2011, and MSST 2010
- **Teaching Assistant – CMPS 12M** Sept 2011-Dec 2011  
University of California, Santa Cruz
  - Lead lab sessions for CMPS 12M Introduction to Data Structure
  - Assisted students with homework. Graded tests, quizzes and labs
- **Project Management Trainee** Aug 2005-Aug 2006  
China Mobile and Communications Co., Ltd., Shanghai, China
  - Training for troubleshooting large-scale telecommunication equipments, specifying faulty devices and detailed locations in the network
  - Involved in several urban construction projects including e-police and mobile-bank, responsible for maintaining and building the relationship between the department, government, and the third party sponsors, and coordinate the project resources
  - Help to maintain different telecommunication equipments and re-home the networks
- **Microsoft Platform Escalation Support Engineer (Intern)** Aug 2004-Mar 2005  
Shanghai Wicresoft Co., Ltd., Shanghai, China
  - Won the monthly award for the clients' most satisfied support engineer
  - Provide technical solutions and consulting services for Microsoft product users
  - Performed extensive hiring, training, and developing of the team

## EDUCATION

- **PhD Student** 2009-present  
**Computer Science**  
University of California, Santa Cruz
- **Master of Science** 2009  
**Computer Engineering**  
University of Cincinnati, OH
- **Bachelor of Science** 2005  
**Telecommunication Science and Engineering**  
Fudan University, Shanghai, China

## PROJECT

- **Object-based File System for Flash Memory**
  - Tools: Java, C/C++, VMware Workstation 6.5, Eclipse IDE, Linux Kernel 2.6, Python, NANDsim
  - Design and implement an object-based file system module for flash memory in Linux kernel with new data placement policies, index structures, and advanced file system features
  - Improve the flash memory garbage collection efficiency and overall performance, and reduce the space overhead with different index structures
  - Evaluate flash-aware file system performance under different workloads with several file system benchmarks
- **A Design of Buffer Scheme for Solid State Disk**
  - Tools: C/C++, DiskSim-4.0 simulator, Microsoft SSD simulator, Microsoft Visual Studio 2005, Linux
  - Involved in design, modeling, and performance evaluation of NAND-based flash memory storage systems
  - Design and Implement a new buffer algorithm for SSDs to improve write performance and reduce garbage collection overhead
  - Conduct trace-driven simulation using DiskSim v4.0 and Microsoft DiskSim based SSD simulator
- **War Game with Cryptography Communication**
  - Tools: Eclipse IDE for Java, NetBeans IDE, Linux, Sun Solaris OS
  - Design and build a Java system which attempts to accumulate points for the group through encrypted communications with other group systems
  - Project includes knowledge of secret key cryptography, public key cryptography, authentication, integrity protection, zero-knowledge proofs, RSA, Diffie-Hellman key exchange, login protocols, etc

## TECHNICAL SKILLS

- C/C++, Java, FPGA, Latex, Matlab
- Windows, Linux, UNIX, OS X