

# Shengye Wang

<http://shengye.wang>

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INFORMATION 9500 Gilman Drive, M.C. 0404, La Jolla, CA 92093

INTERESTS Software Engineer, Robotics, Cloud Computing, Human-robot Interaction, Machine Intelligence

EDUCATION **University of California, San Diego**, La Jolla, CA **Sept. 2014 – Present**  
*Doctor of Philosophy in Computer Science*  
• GPA: 3.87/4.0 (until Fall 2018)

**Fudan University**, Shanghai, P. R. China **Sept. 2010 – Jul. 2014**  
*Bachelor of Science in Microelectronics*  
• GPA: 3.55/4.0  
• Minor: Economics

WORK AND RESEARCH **The Cognitive Robotics Laboratory**, UC San Diego **Sept. 2016 – Present**  
*Graduate Student Researcher*: Advised by Prof. Henrik I. Christensen  
• Research and build long-term robust and reliable robotic system in home settings  
• Exploiting cloud services to offload computational intensive tasks  
• Study failure cases for robots in semi-structured environments and involving extensive human-robot interaction

**Google Inc.**, Technical Infrastructure & YouTube **Multiple Summers**  
*Software Engineer Intern*  
• Develop, optimize, and monitor services for large scale network modeling, monitoring, configuration automation, and software-defined network management (Summer 2016)  
• Collect, process, and analyze advertising campaign features to support Brand Lift products and business (Summer 2017)

**The Gadgetron Research Group**, UC San Diego **Apr. 2015 – June. 2016**  
*Graduate Student Researcher*: Advised by Prof. Steven Swanson  
• Created tools with intuitive interface that enable people without electronic background to design and build circuit board prototypes  
• Researched for better circuit board design methodology by applying software engineering concepts and practices to the design flow

**The Bespoke Systems Group**, UC San Diego **Sept. 2014 – Apr. 2015**  
*Graduate Student Researcher*: Advised by Prof. Michael Taylor  
• Built “BaseJump” open source ASIC prototyping platform  
• Developed hardware, firmware, and software that controls the “DoubleTrouble” ASIC emulation daughterboard

**State Key Laboratory of ASIC & System**, Fudan University **May 2012 – Jun. 2014**  
*Research Assistant*: Supervised by Prof. Lingli Wang & Prof. Wei Cao  
• Built image recognition applications running on FPGA/CPU hybrid supercomputer and high-performance network using Verilog, C, and C++  
• Researched and implemented coarse-grained reconfigurable architecture (CGRA) prototypes that seeks tradeoffs between performance and flexibility

SELECTED PROJECTS  
• **Graduate Course Projects** at UC San Diego **Sept. 2014 – Dec. 2015**  
• Computer Architecture: MIPS R10K simulator (in C++)  
• Compiler: LLVM dataflow analysis of constant propagation, available expression, etc.

- Cryptography: measuring energy cost of enabling SSL on Android devices
- Data Mining: Amazon cross-category coherent visual styles recommender system
- **MIPS-like Toy Processor** at UC San Diego **Sept. 2012 – Dec. 2012**  
A complete multi-core processor design from scratch for *Computer Architecture* class
  - Original instruction set architecture, with assembler and simulator
  - Hardware implementation with on Altera FPGA using SystemVerilog; I/O mapped to PC through JTAG interface
  - Experimental ASIC physical design with SAED 28/32 nm process
- **Remote Switch Control** Self-supported project **Jan. 2012 – Feb. 2012**  
An IoT device that control switch through cellar network or Internet that has been operating stably for over 2 years  
The complete design process of an embedded system including schematic capture, PCB layout, case design, soldering, assembling, firmware development, debugging, software and website designing, documentation

SELECTED  
PUBLICATIONS

- **Shengye Wang**, Henrik I. Christensen, “TritonBot: First Lessons Learned from Deployment of A Long-term Autonomy Tour Guide Robot”, in *Proceedings of the 27th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, 2018.
- **Shengye Wang**, Chen Liang, Xuegong Zhou, Wei Cao, Chenlu Wu, Xitian Fan, Lingli Wang, “A Hardware Implementation of Bag of Words and Simhash for Image Recognition”, in *Proceedings of the 2013 International Conference on Field-Programmable Technology (ICFPT)*, 2013.
- **Shengye Wang**, Wei Cao, Lingli Wang, Na Wang, Ping Tao, “A Novel Structure of Dynamic Configurable Scan Chain – Bypassing Unconcerned Segment on the Fly”, in *Proceedings of the IEEE 10th International Conference on ASIC (ASICON)*, 2013, pp. 805–808.
- Xitian Fan, Chenlu Wu, Wei Cao, Xuegong Zhou, **Shengye Wang** and Lingli Wang, “Implementation of High Performance Hardware Architecture of SURF Algorithm on FPGA”, in *Proceedings of the 2013 International Conference on Field-Programmable Technology (ICFPT)*, 2013.
- Chen Liang, Chenlu Wu, Xuegong Zhou, Wei Cao, **Shengye Wang** and Lingli Wang, “An FPGA-cluster-accelerated Match Engine for Content-based Image Retrieval”, in *Proceedings of the 2013 International Conference on Field-Programmable Technology (ICFPT)*, 2013.

AWARDS &  
DISTINCTIONS

- |             |   |
|-------------|---|
| 2014 - 2017 | UC San Diego Prestigious Kunzel-Powell Fellowship                                       |
| 2013        | Selected in Fudan Undergraduate Research Opportunities Program                          |
| 2013        | Third Prize, The 3 <sup>rd</sup> National University Students’ Opt-Sci-Tech Competition |
| 2012        | Third Prize, Fudan Programming Contest  |
| 2011        | Selected in Qihang Academic Activity of Fudan College                                   |
| 2009        | First Prize, Teenager Robot Competition in Zhejiang Province                            |
| 2007, 2008  | First Prize, National Olympiad in Informatics in Provinces                              |

PROGRAMMING C++, C, Python, etc.

ACTIVITIES

- **President** of **Fudan Youth Lighting Association** **Sept. 2011 – Jun. 2012**
  - A society advocating electronic technology and a platform of sharing ideas
  - Organized several public activities on electronic DIY