

Shengye Wang

<https://shengye.wang>

CONTACT INFORMATION	Computer Science and Engineering, UC San Diego 9500 Gilman Drive, M.C. 0404, La Jolla, CA 92093	E-mail: shengye@ucsd.edu
INTERESTS	Robotics, Machine Learning, Reliability Engineering, Cloud Computing, Autonomous Driving, Human-robot Interaction	
EDUCATION	University of California, San Diego, CA <i>Doctor of Philosophy in Computer Science</i> • GPA: 3.87/4.0 (until Fall 2019) • Advanced to candidacy in September 2018 • Dissertation: <i>Reliability Engineering for Long-term Autonomous Service Robots</i>	Sept. 2014 – Jun. 2020 (expected)
	Fudan University, Shanghai, P. R. China <i>Bachelor of Science in Microelectronics</i> • GPA: 3.55/4.0 • Minor: Economics	Sept. 2010 – Jul. 2014
WORK AND RESEARCH	The Cognitive Robotics Laboratory, UC San Diego <i>Graduate Student Researcher: Advised by Prof. Henrik I. Christensen</i> • Research and build long-term robust and reliable robotic system in home settings • Study failure cases for robots in semi-structured environments and involving extensive human-robot interaction • Use Linux containers to improve the software architecture and components organization in service robot systems • Inject faults and failure to running robotic systems to test the robustness and discover design flaws • Leverage public and private cloud infrastructure to offload computational intensive tasks	Sept. 2016 – Present
	Google LLC., Technical Infrastructure & Ads & Search <i>Software Engineer Intern & Research Intern</i> • 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) • Optimize the speech language identification system using machine learning, deep neural networks, and TensorFlow (Summer 2019)	Multiple Summers
	The Gadgetron / Bespoke Systems Group, UC San Diego <i>Graduate Student Researcher: Advised by Prof. Steven Swanson / Prof. Michael Taylor</i> • Researched for better circuit board design methodology by applying software engineering concepts and practices to the design flow • Built “BaseJump” open source ASIC prototyping platform; Developed hardware, firmware, and software that controls the ASIC emulation daughterboard	Sept. 2014 – Jun. 2016
	State Key Laboratory of ASIC & System, Fudan University <i>Research Assistant: Supervised by Prof. Lingli Wang & Prof. Wei Cao</i> • 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	May 2012 – Jun. 2014

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
- **Remote Switch Control** Self-supported project **Jan. 2012 – Feb. 2012**
 - An IoT device that control switch through cellular 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**, Xiao Liu, Jishen Zhao, Henrik I. Christensen, “Robotic Reliability Engineering: Experience from Long-term TritonBot Development,” to appear in *Proceedings of the 12th Conference on Field and Service Robotics (FSR)*, 2019.
- **Shengye Wang**, Xiao Liu, Jishen Zhao, Henrik I. Christensen, “Rorg: Service Robot Software Management with Linux Containers,” in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, 2019.
- **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 3rd National University Students’ Opt-Sci-Tech Competition
- 2012 Third Prize, Fudan Programming Contest
- 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