

DANIEL SUO

Curriculum Vitae

Department of Computer Science
35 Olden Street, Room 318b
Princeton, New Jersey 08540

dsuo@cs.princeton.edu · (617) 930-4239
<https://cs.princeton.edu/~dsuo>

RESEARCH INTERESTS

Real-time systems for problems in robotics and computer vision. Operating systems, distributed systems, co-processors and accelerators.

EDUCATION

- Sep 2015 – May 2020 **Princeton University**, *Ph.D. Candidate in Computer Science*.
Princeton, NJ Advised by Professor Kai Li
- Sep 2006 – May 2010 **Harvard University**, *A.B. in Computer Science*.
Cambridge, MA Secondary Field in Statistics
- Sep 2003 – Jun 2006 **Lexington High School**, *High School Diploma*.
Lexington, MA USA Mathematics Olympiad (Top 0.02%). Piano performance (3rd nationally)

RESEARCH EXPERIENCE

- July 2017 – Present **Visiting Collaborator**.
Berkeley, CA EECS at UC Berkeley, RISELab, Berkeley Artificial Intelligence Research (BAIR) Lab
- **Berkeley Deep Drive**
Collaboration between RISELab and BAIR to develop deep automotive perception on real-time and distributed systems.
- Sep 2015 – Present **Ph.D. Candidate in Computer Science**.
Princeton, NJ Computer Science Department at Princeton University
- **Brain Imaging Analysis Kit (BrainIAK)**
Collaboration among Intel, the Princeton Neuroscience Institute, and Princeton CS to produce highly-optimized software for advanced brain image analysis. Role: develop distributed deadline-driven system for real-time fMRI studies.
 - **2017 Amazon Alexa Challenge (Team Princeton)**
Challenge to develop a conversational social chatbot. Role: develop real-time processing system to handle chatbot responses for thousands of concurrent conversations.
 - **2016 Amazon Picking Challenge (Team MIT, 3rd Place)**
Challenge to demonstrate fully autonomous systems that pick objects from warehouse shelves. Role: develop ROS infrastructure, design and implement 6D pose annotator.
 - **Mobot**
Autonomous robot for mapping indoor environments. Synchronizing high-resolution cameras over wireless networks, offloading compute to GPU-enabled servers, designing and manufacturing mechanical parts. Built [by hand](#). Code [here](#).

PUBLICATIONS

- Neuroscience 2017 **Daniel Suo**, Benjamin J. Hutchinson, Megan deBettencourt, Anne Mennen, Yida Wang, Ted Willke, Nicholas B. Turk-Browne, Kenneth A. Norman, Johnathan D. Cohen, and Kai Li. Real-time fMRI analysis in cloud computing environments. 2017
- Under submission* **Daniel Suo**, Michael Suo, and Kai Li. The case for cooperative resource sharing for parallel applications on manycore processors. 2017
- Under submission* Ari Seff, Alex Beatson, **Daniel Suo**, and Han Liu. Continual learning in generative adversarial nets. *arXiv preprint arXiv:1705.08395*, 2017

ICRA 2017 Andy Zeng, Kuan-Ting Yu, Shuran Song, **Daniel Suo**, Ed Walker Jr., Alberto Rodriguez, and Jianxiong Xiao. Multi-view self-supervised deep learning for 6d pose estimation in the amazon picking challenge. 2016

SOFTWARE

cuSIFT GPU-optimized implementation of SIFT with related 2D and 3D image alignment procedures.
rgbd-annotator Annotate 6D object poses from RGB-D data.
libdocker Official Docker SDK in C.
Crypto.jl Julia cryptography library.
Marvin Minimalist GPU-only N-dimensional framework for deep convolutional neural networks.

ACADEMIC AWARDS

Feb 2016 2016 Qualcomm Innovation Fellowship Finalist
Sep 2015 – May 2020 Gordon Y. S. Wu Fellowship in Engineering

ACADEMIC SERVICE

2016 Reviewer, European Conference on Computer Vision
2016 Reviewer, IEEE Conference on Computer Vision and Pattern Recognition

TEACHING

Princeton University

Fall 2016 COS418 Distributed Systems, *Teaching Assistant*, Prof. Mike Freedman
Spring 2017 COS518 Advanced Computer Systems, *Teaching Assistant*, Prof. Mike Freedman
2016 – 2017 Annie Chu '17, *Undergraduate Advisor*, Prof. Kai Li
2015 – 2016 Helen Yu '16, *Undergraduate Advisor*, Prof. Jianxiong Xiao
2015 – 2016 Pallavi Koppol '16, *Undergraduate Advisor*, Prof. Jianxiong Xiao
2015 – 2016 Ed Walker '16, *Undergraduate Advisor*, Prof. Jianxiong Xiao
Spring 2016 Aarav Chavda '17, *Undergraduate Advisor*, Prof. Jianxiong Xiao

Harvard University

Spring 2010 CS171 Data Visualization, *Teaching Assistant*, Prof. Hanspeter Pfister
Spring 2009 CS171 Data Visualization, *Teaching Assistant*, Prof. Hanspeter Pfister

WORK EXPERIENCE

Mar 2013 – Jul 2015 **Floored, Inc.**, *Head of Product, LIDAR and Computer Vision Research*, New York, NY.
Sep 2012 – Mar 2013 **McKinsey & Company**, *Advanced Industries Practice*, Stamford, CT.
Jul 2010 – Aug 2012 **Goldman Sachs & Co**, *Investment Banking Division*, New York, NY.

REFERENCES

Princeton University **Kai Li**, *Department of Computer Science*.
Advisor Paul M. Wythes '55, P'86 and Marcia R. Wythes P'86 Professor in Computer Science
Princeton University **Johnathan D. Cohen**, *Princeton Neuroscience Institute*.
Collaborator Robert Bendheim and Lynn Bendheim Thoman Professor in Neuroscience. Professor of Psychology, Co-Director Princeton Neuroscience Institute
Intel Corporation **Theodore L. Willke**, *Parallel Computing Lab*.
Collaborator Senior Principal Engineer
Princeton University **Michael J. Freedman**, *Department of Computer Science*.
Supervisor Professor, S* Network Systems (SNS) group

Harvard University **Hanspeter Pfister**, *John A. Paulson School of Engineering and Applied Science*.
Supervisor An Wang Professor of Computer Science. Director of the Institute for Applied Computational Science