

# Giulio Zhou

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## Education

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**Carnegie Mellon University (Pittsburgh, PA)** 08/2017 – *present*  
**PhD, Computer Science**

**University of California, Berkeley (Berkeley, CA)** 08/2012 – 12/2016  
**Bachelor of Arts, Computer Science** **GPA: 3.893 / 4.0**

*Relevant Coursework:* Machine Learning, Artificial Intelligence, Computer Vision, Deep Reinforcement Learning, Probability and Random Processes, Operating Systems, Computer Networking, Database Systems.

## Research Experience

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**Intel Center for Visual Cloud Systems** (Advisers: Dave Andersen, Michael Kaminsky) 08/2017 – *present*

- Work on enabling fine-grained video analysis with minimal human supervision.
- Focus on low-shot learning of object detectors in video using ensembling, model distillation, and tracking.

**Real-time Intelligent and Secure Execution (RISE) Lab** (Adviser: Joseph Gonzalez) 05/2016 – 12/2016

- Worked on Clipper, a system for online, low-latency machine learning model serving.
- Benchmarked Clipper's RPC system, demonstrating throughput and latency parity with Tensorflow Serving.
- Explored the use of classification and hypothesis testing techniques for online model retraining.

**Berkeley Artificial Intelligence Research Lab** (Adviser: Stuart Russell) 03/2015 – 12/2016

- Worked on sampling algorithms for Bayesian LOGic (BLOG), an open-universe probabilistic modeling language.
- Implemented a Gaussian Mixture Model (with temporal and spatial constraints) for background subtraction that achieves comparable accuracy to OpenCV's state-of-the-art background subtraction libraries. Submitted as part of DARPA's Probabilistic Programming for Advancing Machine Learning (PPAML) program.

## Publications

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### **Clipper: A Low-Latency Online Prediction Serving System**

Daniel Crankshaw, Xin Wang, **Giulio Zhou**, Michael J. Franklin, Joseph E. Gonzalez, Ion Stoica.  
USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2017.

### **EDF: Ensemble, Distill, and Fuse for Easy Video Labeling** (*Under Submission*)

**Giulio Zhou**, Subramanya R. Dulloor, David G. Andersen, Michael Kaminsky.

### **Scaling Video Analytics on Constrained Edge Nodes** (*Under Submission*)

Christopher Canel, Thomas Kim, **Giulio Zhou**, Conglong Li, Hyeontaek Lim, David G. Andersen, Michael Kaminsky, Subramanya R. Dulloor.

## Industry Experience

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**Google Inc., Google Keyboard** (Software Engineer) 03/2017 – 08/2017

- Created infrastructure to support analytics data pipelines and interactive data visualization.
- Automated the generation, management and evaluation of Google Keyboard test sets.

**Google Inc., Display Ad Automation** (Software Engineering Intern) 05/2015 – 08/2015

- Built a backend pipeline for automated text-to-image matching for internationalized display ads.

## Teaching Experience

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CS 189/289A, Introduction to Machine Learning (Fall 2016)

CS 61BL, Data Structures and Programming Methodology (Summer 2016)

CS 61B, Data Structures and Algorithms (Spring 2016)

## Technical Skills

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**Programming Languages:** Python, Java, C, C++, Rust, L<sup>A</sup>T<sub>E</sub>X

**Software/Frameworks:** Caffe, Tensorflow, OpenCV, Apache Spark, Hadoop MapReduce