Giulio Zhou

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Education

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   **Cumulative GPA:** 3.891

Relevant Coursework: Machine Learning, Artificial Intelligence, Computer Vision, Operating Systems, Image Processing, Probability and Random Processes, Data Structures, Computer Networking, Database Systems.

Research Experience

Algorithms, Machines and People Lab   05/2016 – *present*
- Worked under Joseph Gonzalez on Clipper, a system for online, low-latency machine learning model serving.
- Implemented the REST interface and a C++ RPC server to support Vowpal Wabbit, a scalable library for linear model predictions.
- Benchmarked Clipper RPC system on AlexNet, Network-in-Network and Inception Tensorflow models, demonstrating throughput and latency parity with Google's Tensorflow Serving system.
- Explored the use of classification and hypothesis testing techniques for real-time covariate shift detection and adaptation (through online reweighted model retraining).
- Publication: Daniel Crankshaw, Xin Wang, **Giulio Zhou**, Joseph E. Gonzalez. *Clipper: A Low-Latency Online Prediction Serving System.* NSDI, 2017.

Berkeley AI Research Lab   03/2015 – *present*
- Worked under Stuart Russell 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 in video sequences. Written in 10 lines of BLOG code, the algorithm achieves comparable performance to OpenCV's state-of-the-art background subtraction libraries. Submitted to DARPA as part of DARPA's Probabilistic Programming for Advancing Machine Learning (PPAML) initiative.

Industry Experience

Google, inc.   03/2017 – *present*
Software Engineer
- Worked on the Google Keyboard team, using machine learning algorithms to improve the keyboard typing experience.
- Created infrastructure to support analytics data pipelines and subsequently fast, interactive data visualization.
- Built a framework for the generation, management and evaluation of test sets for all of Google Keyboard.

Google, inc.   05/2015 – 08/2015
Software Engineering Intern
- Worked on the Display Ad Automation Team to improve the quality of Native Ads.
- Designed and built a backend pipeline for high-quality automated text-to-image matching for internationalized display ads.
- Developed quality visualization tools and deployed non-English Native Ads, doubling overall ad coverage.

Teaching Experience

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

Programming Languages: Python, Java, C, C++, MATLAB, SQL, Rust, HTML/CSS/JS, LaTeX
Software/Frameworks: Caffe, Tensorflow, Django, Apache Spark, Hadoop MapReduce, scikit-learn, scikit-image