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 **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

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

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

Google Inc., 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

- Designed and built a backend pipeline for automated text-to-image matching for internationalized display ads.

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)

Organizations

Tau Beta Pi, Engineering Honor Society
Information Technology Chair 01/2015 – 05/2016

- Oversaw a 4-member team in Django full-stack development, maintaining a strict code review system and requiring comprehensive unit-testing and style adherence.
- Led the development and deployment of the Tau Beta Pi Alumni Database, connecting Tau Beta Pi members to alumni mentors throughout industry and academia.
- Coordinated Tau Beta Pi website hackathons, where participants work in teams on novel website features; notable projects include search autocompletion, Alumni Database prototype, and tools for website analytics.

Professional Development Officer 09/2014 – 12/2014

- Held mock interviews and critiqued resumes for the engineering community.
- Coordinated workshops on Analytical Problem Solving, People Skills and Cultural Awareness.

Member 05/2014 - *present*

- Tau Beta Pi accepts the top 25% seniors in the College of Engineering.

EECS Honors Degree Program
Member, *Concentration in Chemical Engineering* 01/2015 - *present*

- Honors Program with 20-30 students. Requirements include research and extended studies in concentration outside EECS.

Technical Skills

Programming Languages: Python, Java, C, C++, Rust, LaTeX
Software/Frameworks: Caffe, Tensorflow, OpenCV, Apache Spark, Hadoop MapReduce