

Wei Dai (David)

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PROFILE

Skilled and detail-oriented researcher, software developer, and engineering leader with broad experiences in machine learning and distributed ML systems.

EXPERIENCES

Petuum Inc.

Senior Director of Engineering — Sept 2017 - Present

Director of Product Development — May 2017 - Sept 2017

Senior Manager — Jul 2016 - May 2017

- As part of the founding team, I help grow the engineering team from <10 in 2016 to over 60 full-time engineers in 2Q18. Both a trench worker and a manager, I lead the product and engineering teams to deliver quarterly platform milestones for 3Q17 - 1Q18. Currently I lead engineering at Petuum, marshaling the work of 8 teams and 4 front-line managers.
- In my tech lead role, I lead the backend system design of Petuum's AI platform that combines all stages of machine learning—data ingestion and cleaning, feature engineering, embedding, training, data and model visualization, pipeline deployment and serving, monitoring—into one unified framework. Comparable systems include AzureML, TFX, FBLearner Flow, and Michelangelo.
- I led the former medical imaging team to develop best in class deep learning methods for chest x-ray to assist radiologists in diagnosis, resulting in Petuum's first contract.
- Proposed and implemented org adjustment for platform teams with broad feedback and support, resulting in a simpler org structure that empowers engineering managers and tech leads.
- Fostering engineering culture by hosting bi-weekly tech talks, performing 1-on-1, planning and executing performance review and promotions for all engineering. Support long-term efforts in formalizing engineering and management ladders.

Facebook

Software Engineer Intern — May 2015 - Aug 2015

- Part of the FBLearn team (now Applied ML), I developed a distributed large-scale logistic regression using LBFGS and Petuum parameter server.
- Benchmarked the implementation against Facebook's internal system and Vowpal Wabbit; showed that the implementation achieves high system throughput and produces comparable to better models.

Google Inc. (Pittsburgh Office)

Software Engineer Intern — May 2013 - Aug 2013

- Contributed to the Ad Quality backend; developed a hyperparameter tuning framework to optimize SmartAds training system with convex and non-convex optimization methods.
- The system was later published as Google Vizier.

LinkedIn

Software Developer Intern — Jun 2012 - Aug 2012

- Implemented a number of background tasks in the payment backend using Java, Oracle SQL, Python, and Spring Framework.

Bosch Research

Research Intern — Feb 2016 - Aug 2016

- Developed state-of-the-art convolutional neural networks for environmental sound analysis using TensorFlow. Published two papers in ICASSP 2017.

TECHNICAL SKILLS

Machine Learning: Parameter Server, Distributed Optimization, Deep Learning, Computer Vision, Medical Imaging, Graphical Models

Technologies: TensorFlow, Spark, Protocol Buffer, ZeroMQ, Pulsar, GraphQL, Docker, Kubernetes

Languages: Python, C/C++, Java

EDUCATION

Carnegie Mellon University — 2018
Ph.D. in Machine Learning

California Institute of Technology — 2012
B.Sc in Computer Science

Wesleyan University — 2012
B.A. in Physics and Mathematics

PUBLICATIONS & AWARDS

Over 20 publications in top machine learning, artificial intelligence, system, and computer vision venues with more than 700 Google Scholar citations. Recipient of a best paper award. Two pending US patents. "30 Under 30" by Pittsburgh Business Times.