

JIAYUAN WANG

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SKILLS

Programming languages Python, C++

Technologies SQL, PyTorch, scikit-learn, pandas, Spark, Hadoop, OpenGL, OpenCV, Unity

EXPERIENCE

Google, SWE - Machine learning

Aug 2020 - Mar 2023

Cloud platform compute performance team, data-driven cloud platform compute optimization

- Designed, implemented, validated machine learning models to identify cloud customer workloads. The models guided the benchmark selection to define a set of standard benchmarks for Google Cloud workloads. This benchmark set will be used by multiple engineering teams, for new platform introduction, product pricing, and performance evaluation.
- Built and maintained the data collecting, processing and monitoring infra. Automated a benchmark data collecting pipeline and built a centralized database from unstructured sources. The automation reduced the team manual efforts of writing 1000+ SQL queries.
- Completed the analysis on performance consistency issues of Google Compute Engine products and presented to leaderships within a short turnaround time.
- Received spot bonus for providing workload characteristics for the next generation platform design. The analysis helped the server design team to make important system balance decisions.

The Ohio State University

Sep 2014 - Dec 2019

TA and RA with Prof. Tamal Dey and Prof. Yusu Wang

[Google scholar page](#), [project page](#)

- Designed and implemented algorithms to handle noisy datasets. Implemented a parameter-free denoise algorithm for arbitrary dimension point cloud data. Designed the first noise model and proved the theoretical guarantee for a ridge extraction algorithm.
- Led a project on Automatic Road Extraction on Spacenet challenge dataset using CNN(U-Net) and centerline extraction. Scores are higher than the challenge winners with better road connections and less noise. Developed semi-supervised and unsupervised framework by obtaining pseudo labels using a centerline extraction algorithm.

EDUCATION

The Ohio State University

Sep 2014 - Jan 2020

PhD, MS in Computer Science

Overall GPA: 3.96

Zhejiang University

2010 - 2014

BSc in Mathematics and Applied Mathematics

Overall GPA: 3.89/4.0

PUBLICATIONS

- Road Network Reconstruction from satellite images with Machine Learning Supported by Topological Methods. ACM SIGSPATIAL 2019. [\[arxiv\]](#) [\[poster\]](#) [\[slide\]](#)
- Graph Reconstruction by Discrete Morse Theory. SoCG 2018. [\[arxiv\]](#) [\[code\]](#) [\[slide\]](#) [\[poster\]](#)
- Improved Road Network Reconstruction using Discrete Morse Theory. ACM SIGSPATIAL 2017. [\[poster\]](#) [\[video\]](#)
- Declutter and Resample: Towards parameter free denoising. SoCG 2017. [\[slide\]](#) [\[arxiv\]](#)