

Daniel Zeng

danielzeng (at) cs.stanford.edu

linkedin.com/in/daniel-zeng

github.com/daniel-zeng

Stanford University

M.S. Computer Science

GPA 3.94

March 2023

University of California, Berkeley

B.A. Computer Science

GPA 3.96

May 2021

Publications

Daniel Zeng, Tailin Wu, Jure Leskovec. *ViRel: Unsupervised Visual Relations Discovery with Graph-level Analogy*. ICML 2022 Beyond Bayes Reasoning Workshop. <https://arxiv.org/abs/2207.00590>.

Qian Huang, Hongyu Ren, Peng Chen*, Gregor Kržmanc*, Daniel Zeng*, Percy Liang, Jure Leskovec. *PRODIGY: In-context Learning Over Graphs*. ICML 2023 SPIGM Workshop. <https://arxiv.org/abs/2305.12600>.

Experience

Genesis Therapeutics — Machine Learning Research Engineer

July 2023 - Present

- Deep learning, generative modeling for drug discovery
- Genesis Therapeutics is currently a Series B startup

Google Research — Research Intern, Health AI Team

June 2022 - Sept 2022

- Researched distillation of DermAssist skin condition vision models to improve model efficiency
- Distilled a ResNet101x3 teacher (207 M params) to a ResNet50x1 student (25 M params)
- Distilled student achieves 54% top-1 accuracy, a 4% gap from teacher, while being 8.3x smaller
- Distillation outperforms by 10% accuracy on ResNet50x1 baseline of training directly on labels
- Created TF 2 training pipeline, overcame challenges integrating TF 1 teacher from CT pipeline
- Profiled training code with xprof to address bottlenecks with multi-host TPU training

Stanford AI Lab — Graduate Researcher, SNAP Group

Sept 2021 - Present

Project with Tailin Wu and advised by Professor Jure Leskovec

- Led research direction, implementation for visual relations discovery w/ graph neural networks
- Designed model architecture to capture object-relation correspondence representations
- Method achieves 95+% in relation classification and generalizes to unseen graph structures

Project with Qian Huang et al. and advised by Professor Jure Leskovec

- Researched graph pretraining objectives to enable in-context learning on few-shot graph tasks
- Implemented batch construction of graph tasks and multi-task sampling in data pipeline
- Ideation, tuning, experiments on model architectures, pretraining objectives, hyperparameters

UC Berkeley — Undergrad Researcher, ICSI Vision Group

Sept 2020 - Aug 2021

With Tsung-Wei Ke and advised by Professor Stella Yu: Computer vision machine learning research

- Researched unsupervised image representation learning using pixel-level contrastive learning
- Implemented and benchmarked featurizations on semantic segmentation image embeddings
- Investigated spatial and structural relationships on classification and retrieval performance

Stripe — Software Engineer Intern, Data Infrastructure Team

May 2020 - Aug 2020

- Implemented and designed Hadoop command proxy service on Kubernetes cluster and AWS
- Deployed scalable service to production which proxied thousands commands by internship end
- Built observability dashboard for service to monitor cluster health and send real-time alerts

Berkeley Artificial Intelligence Research — Undergrad Researcher, AUTOLab Feb 2019 - Feb 2020

With Ajay Tanwani and advised by Professor Ken Goldberg: Domain adaptation ML research

- Researched semi-supervised domain adaptation using adversarial representation learning
- Implemented and benchmarked adaptation algorithms, network architectures, metric learning
- Optimized adaption by aligning marginal and conditional distributions in latent feature space

Microsoft — Software Engineer Intern, Azure Production Infrastructure May 2019 - Aug 2019

- Developed tooling for analytics and database queries for incident management (IcM) evaluation
- Enhanced observability in Azure infra with visualization of IcM metrics and event summaries
- Implemented incident report generation based on customized database queries and events

NASA — Software Engineer/Research Intern, Ames Research Center June 2018 - Aug 2018

- Developed simulation for cyber security attacks on Air Traffic Management (ATM) system
- Built and tested functionality to generate and visualize diverse attack scenarios
- Created internal tooling to configure and interface ATM framework components with simulator

UC Berkeley — Research Assistant, Dal Bó Lab Sept 2017 - May 2018

Data science research, with Mehmet Seflek and advised by Professor Ernesto Dal Bó

- Developed methods for natural language processing and statistical analysis to extract relevant text content from archaeological journals
- Built pipeline for collecting archaeological journals using Crossref REST API and web scraping

Upsilon Pi Epsilon, Nu Chapter — Vice President, UC Berkeley Dec 2018 - Dec 2019

- Oversaw the candidacy process for 100+ prospective members and guided committee goals
- Led professional development committee of 20+ people to improve recruiting skills
- Organized workshops including resume, interview, and negotiation for broader CS community

Teaching

CS 330 — Graduate Teaching Assistant, Stanford University Oct 2022 - Dec 2022

Deep Multi-Task and Meta-Learning, instructed by Professor Chelsea Finn, with around 230 students

- Led weekly office hours to support students on course material, assignments, and project
- Mentored 16 student groups on final course project and provided ideation, feedback, guidance
- Helped improve and beta-test newly created homeworks, also graded homeworks and projects

Relevant Courses

CS330 - Deep Multi-Task and Meta-Learning (**TA**), CS285 - Deep Reinforcement Learning

CS224W - ML with Graphs, CS224N - Natural Language Processing, CS162 - Operating Systems

EE126 - Probability and Random Processes, CS189 - Machine Learning, CS231N - Computer Vision

Skills

Languages: Python, Java, Bash, Golang, C/C++, Javascript, Matlab

Platforms/Tools: PyTorch, TensorFlow, NumPy, WandB, Git, AWS, Kubernetes, Terraform, SignalFX, gRPC, SQL, matplotlib, Jupyter Notebooks