Daniel Zeng

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| **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 A 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