Phillip Kravtsov

805 748 4102 | phillipk@berkeley.edu
github.com/phillip-kravtsov

EDUCATION

University of California at Berkeley, College of Engineering Berkeley, CA 2021
Bachelor of Science in Electrical Engineering and Computer Science GPA: 3.81
Relevant Courses: Computer Vision (Graduate), Probability and Random Processes, Machine Learning, Efficient Algorithms, Discrete Math and Probability, Machine Structures, Data Structures
Honors: Regents and Chancellor's Scholar

EXPERIENCE

NVIDIA | Software Engineering Intern - Deep Learning Frameworks Summer 2019

UC Berkeley | Undergraduate Researcher under Dawn Song Spring 2019

- Working with PhD Ruoxi Jia on developing and defending from model inversion attacks against deep networks, which attack models to reveal potentially private training data from learned parameters.

NVIDIA | AI Engineering Intern Summer 2018

- Developed modular scripts for training and deploying fast deep learning person re-identification models
- Optimized networks for speed and created a live person-tracking demo: ran at 15fps on an embedded chip
- Fine-tuned ResNet to learn a similarity metric for images of people using triplet loss with hard triplet mining
- Achieved competitive performance on Duke MTMC-ReID dataset, will open-source code after internship

Zipline International | Consulting Project Manager Fall 2018

- Created classical and LSTM-based anomaly detection system for identifying potentially malfunctioning drone parts using dynamic time warping similarity metric and LSTM-autoencoder reconstruction error.
- Managed project by interfacing with the client (a series C medical services delivery company) developing statement of work, coordinating and assigning tasks, making technical decisions, and writing code.

Vyrill | Consulting Project Member Fall 2017

- Collaborated to develop a machine learning pipeline to predict emotion from audio and text for Vyrill
- Trained LSTMs on transcribed word embeddings and audio as an ensemble to achieve near SOTA results
- Created data parsing and cleaning scripts, audio featurization, tested various models and hyperparameters

Permutation Ventures | Intern Summer 2016

- Developed a personal project to quickly solve the Rubik's cube using a novel deep-learning algorithm.
- Used Tensorflow to train deep networks as heuristics for a two-phase IDA* search. Code on github.

PROJECTS

Creative Adversarial Networks: github.com/mlberkeley/Creative-Adversarial-Networks Fall 2017

- Adapted DCGAN to re-implement Creative Adversarial Networks, which are Generative Adversarial Networks that motivate stylistically novel samples by penalizing predictable style in generated art.
- Wrote models in Python/Tensorflow. Used Tensorboard to visualize results and diagnose issues in training.
- Improved on the original algorithm by using a separate classification network, resize convs, and WGAN-GP

Research Paper on Computational Art Generation Summer 2016 - Spring 2017

- Wrote a thirty page research paper on computational art generation based on original independent research
- Evaluated use of compositional pattern networks to generate art, compared results to contemporary work

ACTIVITIES

Machine Learning at Berkeley | VP of Resources, VP of Internal Affairs Summer 2018 - Present

- Managed club financial & computational resources; internal + external education & member development
- Member of executive board, running club logistics while envisioning and executing novel initiatives

Machine Learning at Berkeley | Internal ML Education Leader Spring 2018

- Designed, managed, and executed a novel semester long internal ML education program for new members
- Program consisted of weekly lecture and homework, and culminated in three ML projects by students.

SKILLS: Python, Tensorflow, NumPy, Java, Deep Learning, CNNs, GAN's

INTERESTS: Freshwater Aquascaping, Rubik's Cube Speedsolving, Computational Art, Math, Origami