Xinyang Geng

2583 Virginia St.
Berkeley, CA 94709
http://young-geng.xyz

young.gengxy@gmail.com
(510) 612-4352

EDUCATION

University of California, Berkeley
B.A. in Computer Science and Statistics (double major) May 2017 (expected)

- **Overall GPA: 3.946, Major GPA: 3.973**
- **Coursework**: Machine Learning, Statistical Learning Theory, Computer Vision, Optimization Models, Deep Learning, Stochastic Processes, Time Series, Real Analysis

PUBLICATIONS

Deep Reinforcement Learning for Tensegrity Robot Locomotion

Xinyang Geng*, Marvin Zhang*, Jonathan Bruce*, Ken Caluwaerts, Massimo Vespignani, Vytas SunSpiral, Pieter Abbeel, Sergey Levine.

Under review at ICRA, 2017.
Also, in NIPS Deep Reinforcement Learning Workshop, 2016. arXiv 1609.09049.

AWARDS AND HONORS

CRA Outstanding Undergraduate Researchers Honorable Mention December 2016

UC Berkeley EECS Honors Degree Program Jaunary 2016 – Present

UC Berkeley Letters and Science Dean's Honor List Spring 2014, Spring 2016

RESEARCH EXPERIENCE

UC Berkeley Artificial Intelligence Research (BAIR) Lab Oct 2015 – Present
Research Assistant

Worked under the supervision of Professor Pieter Abbeel, Professor Sergey Levine and Professor Alexei Efros.

Research Projects

- **Deep Reinforcement Learning for Tensegrity Robot Locomotion** (rll.berkeley.edu/drl_tensegrity)

  We collaborated with NASA Ames to tackle the problem of learning continuous locomotion policy for SUPERball tensegrity robot, a compliant robot that holds promise for future planetary explorations. We devised a novel extension of guided policy search algorithm and successfully trained neural network policies both in simulation and for the real robot.

- **Generative Curriculum for Goal Based Reinforcement Learning with Spare Rewards**

  Traditional reinforcement learning methods are inefficient when rewards are sparse, and curriculum are shown to be helpful. We devised a novel approach of designing curriculum automatically. We used generative adversarial network to generate goals for learning, based on the current performance of the agent. Experiments revealed that our approach achieves better results than traditional methods.

- **Deep Image Colorization with User Guidance**

  We devised a novel approach of colorizing a grayscale image with user guidance. We trained two convolutional networks to provide the prior color distribution and pair-wise pixel color distance information, and then incorporated the user guidance by formulating the image generation process as an optimization problem. This approach ensures that the colored image is plausible, close to the user guidance and consistent with the image semantics.

UC Berkeley StatNews Project Jan 2014 – May 2015
Research Assistant

Worked under the supervision of Professor Laurent El Ghaoui.

We applied statistical and machine learning approaches to the analysis of large text corpus. We explored various ways for topic modeling, and used regression methods to discover trends of topics and relations between documents.

INDUSTRY EXPERIENCE

Google May – Aug 2015
Software Engineering Intern Mountain View, CA

- Worked in advertisement data infrastructure engineering productivity team.
- Designed and built dashboard website for a log processing pipeline testing framework.
- Created performance visualization and alert service.

IBM May – Aug 2014
Software Engineering Intern Emeryville, CA

- Worked on the IBM Endpoint Manager product.
- Designed software for multiple platforms including Windows with Microsoft SQL Server and Linux with IBM DB2.
- Developed GUI in Microsoft Visual Studio with MFC.

TECHNICAL SKILLS

Interest Areas: Reinforcement Learning, Computer Vision, Deep Learning, Machine Learning
Programming Skills: Python, C/C++, Java, CUDA, Bash, MATLAB, R, Spark.
Github Link: https://github.com/young-geng