Owen **Jow**

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Education

University of California, Berkeley   *Berkeley, CA*

BACHELOR'S IN COMPUTER SCIENCE (GPA 3.8)   *August 2014 - May 2018*

- Relevant courses: Computer Vision, Deep Neural Networks, Probability, Computational Design and Fabrication, Deep Reinforcement Learning, Special Topics in Deep Learning, Optimization, Computer Graphics, Advanced Computer Graphics, Algorithms, Machine Learning, Computational Photography, Artificial Intelligence, 3D Modeling and Animation, Data Structures, Linear Algebra

Experience

Adobe Research (Duygu Ceylan)   *San Jose, CA*

RESEARCH INTERN - EMERGING GRAPHICS GROUP   *June 2018 - PRESENT*

- (In progress) Working with Duygu Ceylan on methods for monocular, in-the-wild 3D human pose estimation.

Robot Learning Lab (Prof. Pieter Abbeel)   *Berkeley, CA*

UNDERGRADUATE RESEARCHER   *June 2016 - May 2018*

- Developed a system for complex, autonomous robot control by means of a neural network trained to imitate VR demonstrations.
- Worked on the platform for learning from demonstration (LfD) as well as the VR interface for robot teleoperation.
- Publications: *Deep Imitation Learning for Complex Manipulation Tasks from Virtual Reality Teleoperation* (ICRA 2018)

UC Berkeley EECS Department   *Berkeley, CA*

UNDERGRADUATE STUDENT INSTRUCTOR   *August 2015 - May 2018*

- Served as a TA for CS 61A (programming paradigms) and CS 170 (efficient algorithms), and as a reader for CS 194-26 (comp. photo).
- Worked with professors and other TAs to create course content such as exams and section worksheets.
- Led weekly discussions, labs, and office hours.

Highlighted Projects

Occlusion-Aware Multi-Object Viewpoint Prediction | Python, TensorFlow   *September 2017 - PRESENT*

- A learning-based method for predicting novel views (and depth information) given a desired viewpoint and a single RGBD view of a scene with several objects occluding each other.
- Uses a fully convolutional encoder-decoder architecture to process the RGBD input, plus some dense layers to process the viewpoint.
- By combining the depth maps generated over multiple views, we can use this method to reconstruct the 3D geometry of a scene.

Deep Blue and Gold | Python, TensorFlow   *April 2017 - PRESENT*

- Chess engine capable of either emulating a certain style of play (using an evaluator network trained with supervision data) or playing as optimally as possible (using an evaluator network trained with temporal difference reinforcement learning).
- For move selection, uses minimax with various extensions (e.g. quiescent search and probability-based termination).

Single View Modeling | Python, OpenGL   *December 2016*

- PyOpenGL realization of the "tour into the picture" algorithm, complete with a GUI for selecting points and walking through scenes.
- In its current incarnation, the program is able to take in a one-point perspective image and reconstruct a 3D model of its content.

Lens Simulator | C++   *March 2016 - April 2016*

- Path tracing, where rays are refracted according to an input lens model. Supports contrast-based autofocus.
- At its core: a physically-based renderer built upon a large number of ray intersection tests, acceleration using a BVH, Russian roulette methods for secondary ray termination, and reflection/refraction computation for different materials.

Skills

Python, C++, TensorFlow, PyTorch, Java, OpenGL, JavaScript, ROS, Adobe Photoshop, Adobe Animate CC, Autodesk Maya