Alvin T. Vuong

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Education

University of California - Los Angeles **(expected) 2013 - 2017**

B.S. Computer Science, Minor in Cognitive Science

GPA: 3.387

Relevant Coursework:

- Operating Systems (CS 111)
- Algorithms & Complexity (CS 180)
- Programming Languages (CS 131)
- Fundamentals of Artificial Intelligence (CS 161)
- Machine Learning (Coursera)
- * Data Mining (CS 145)
- Logic Design of Digital Systems (CS M51A)
- Digital Design Laboratory (CS M152A)
- Linear Algebra & Discrete Structures (Math 33A & 61)
- Formal Languages and Automata Theory (CS 181)
- Advanced Game Development for Virtual Reality (CS 188)
- Sensation and Perception (Psych 120B)
- * Mathematical Modeling and Methods (CS 170A)

Extracurricular Activities:

- UCLA Archery Team | UCLA MentorSEAS
- UCLA Association of Computing Machinery – AI, Hack, & VR/CG | UCLA Cognitive Science Student Association

Experience

The Coding School & Hacker Fund | Instructor & Mentor **Sept 2016 –**

the-cs.org | hacker.fund

- The Coding School is a non-profit educational program that teaches computer science to K-8 students.
- I currently teach basic Unity game development to middle school students in the Los Angeles area.
- Working for a non-profit organization that provides support to various hacking events throughout the nation.
- After being a hacker for 8 hackathons, I motivate participants and help them turn their projects into reality.

Unity3D / UCLA Real Time Lab | Research Assistant & Consultant **June – July 2016**

Virtual Reality Guided Narrative Techniques

- As collaboration between Unity3D and the UCLA Real Time Lab, I worked under Dr. Diana Ford on exploring algorithmic techniques in creating guided experiences in VR.
- Specifically, I worked on using a C# wrapper of the Fast Artificial Neural Network (FANN) Library as a plugin to the Unity game engine in order to activate predictive cues that would grab the player's attention. The NN was trained on a variety of data from the scene, including player camera angle and focal point position.
- Presented our final VR guided narrative demo, *Busking for Change*, at SIGGRAPH 2016, a conference on computer graphics and interactive techniques.

UCLA Rissman Memory Lab | Research Assistant **June 2015 –**

rissmanlab.psych.ucla.edu

Neural Correlates of Fluid Intelligence & Depression using the Human Connectome Project **June 2015 –**

- Working on using fMRI and DTI data from the Human Connectome Project to account for individual differences in fluid intelligence, memory strength, and reward.
- Currently writing Matlab and shell scripts to train predictive models using many subjects' data and assessing the relationships to their behavioral scores on various NIH Toolbox tasks, such as the PMAT.

Avatar Learning in Virtual Environments **Jan. 2016 –**

- Investigating the cognitive and neural mechanisms of learning and memory that occurs within virtual reality and their implications for future training and educational purposes.
- Currently MRI safety certified and CITI-trained (basic, social/behavioral, HIPAA), I assist in the process of running and scoring participants, as well as maintaining data quality assurance.

UCLA Computational Perceptual Processing Lab | Research Assistant **June 2016 –**

zililab.psych.ucla.edu

Computational Motion Processing & Learning **June 2016 –**

- Working with Yang (Mac) Xing under Dr. Zili Liu on writing/modifying Matlab scripts for analyses of MT-V1 task-state fMRI data in an attempt to better understand motion processing and perceptual learning using SVM techniques.

Environmental Vertical Illusion in Virtual Reality **June 2016 –**

- Investigating the oculovestibular perception of virtually tilted rooms. Tilted/skewed contexts affect human perception of their subjective vertical, resulting in environmental illusions.
- I help create the experimental virtual environments and their functionalities in Unity.