Alvin T. Vuong

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Education

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

B.S. in Computer Science, Minor in Cognitive Science

GPA: 3.367

Relevant Coursework:

- Operating Systems (CS 111)
- Algorithms & Complexity (CS 180)
- Programming Languages (CS 131)
- Fundamentals of Artificial Intelligence (CS 161)
- Machine Learning (Coursera)
- 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)

Extracurricular Activities:

- UCLA Archery Team | UCLA CS:GO Gold Team
- UCLA Association of Computing Machinery – AI & VR/CG | UCLA Cognitive Science Student Association

Experience

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 on using SVM techniques to extract any perceptual information from the middle temporal (MT) area as compared to V1, even under MT suppression and after perceptual learning.
- I assist in writing Matlab scripts for fMRI data analysis and organization.

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.

USA Archery | Electronic Scoring Team **June – July 2014-16**

- Prepared and helped manage electronic scoring systems for two USA Archery tournaments: SoCal Showdown & U.S. National Target Championships/Easton JOAD Nationals.
- Shadowed the use of Ianseo and Rcherz, two archery scoring database systems (SQL-based) that contained the scoring data of archers at the competitions.