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: * = In Progress

- 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 | Hackathon Mentor
- UCLA Association of Computing Machinery – AI, Hack, & VR/CG | UCLA Cognitive Science Student Association

Experience

The Coding School **Sept 2016 -**

Unity Instructor - the-cs.org

- Teaching Unity 3D game development and computer science to K-8 students in the Los Angeles area.
- Leading 28 students in creating an Angry Birds project clone.

Unity Technologies **June - Aug 2016**

Research Consultant - unity3d.com | Dr. Diana Ford

Virtual Reality Guided Narrative Techniques

- Used a C# wrapper of the Fast Artificial Neural Network (FANN) library as a Unity plugin 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.
- Demo was part of a presentation on algorithmic techniques for creating guided experiences in VR at SIGGRAPH Anaheim.

UCLA Rissman Memory Lab **June 2015 -**

Research Assistant - rissmanlab.psych.ucla.edu | Dr. Jesse Rissman

Neural Correlates of Fluid Intelligence & Depression

- Writing Matlab and shell scripts to train predictive models using fMRI & DTI data from the Human Connectome Project.

Avatar Learning in Virtual Environments

- Maintaining participant data for investigating the cognitive and neural mechanisms of learning and memory in VR.

UCLA Perceptual Processing Lab **June 2016 -**

Research Assistant - zililab.psych.ucla.edu | Dr. Zili Liu

Computational Motion Processing & Learning

- Writing Matlab analyses for MT-V1 task-state fMRI data in order to better understand motion processing and perceptual learning using SVM techniques.

Environmental Vertical Illusion in Virtual Reality

- Created a VR experiment in Unity Investigating the oculovestibular perception of tilted rooms. Environmental context affects human perception of their subjective vertical, resulting in perceptual illusions.

Projects

Escality **Aug 2016 -**

- Currently working with a team of five in development of a VR escape room game.
- Utilizes the HTC Vive and Unity game engine.
- As project lead and manager, I oversee the overall design and implementation of the game.
- Use of VRTK SteamVR C# plugin for Unity in order to manage Vive input and functionality.

DodgeLodge **Apr 2016**

- Full-body VR dodging game, built using Unity, a Microsoft Kinect V2, an Oculus Rift, and a Leap Motion.
- Used the Unity Leap Motion API to extract directional finger pointing data for use in projectile firing.
- Assisted in using the Unity Kinect API to map player's joint and skeletal orientation to an in-game model.
- Top Ten Hack, at LA Hacks 2016.

FindAR **Aug 2014**

- Augmented reality application using an Oculus Rift, a webcam, and OpenCV to facilitate real-world search (visual filters & face/object recognition).
- Developed a C++ API for handing web socket input to control the application using a Pebble Smartwatch.
- Used OpenCV to handle webcam feed and applied color isolation filters to ease search for lost objects.
- Awarded First Place & Top Oculus Hack at Hero Hacks, a wearable technology hackathon. Devpost Staff Pick.