# Alvin T. Vuong

alvin.t.vuong@ucla.edu | +1 (925) 470-7297 | imatv.me | github.com/Alvin-Vuong

## 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)
- Data Mining (CS 145)
- Machine Learning (Coursera)
- * Neural Networks (Psych 186B)
- Logic Design of Digital Systems (CS M51A)
- Digital Design Laboratory (CS M152A)
- Linear Algebra & Discrete Structures (Math 33A & 61)
- Mathematical Modeling and Methods (CS 170A)
- Formal Languages and Automata Theory (CS 181)
- Advanced Game Development for Virtual Reality (CS 188)
- Sensation and Perception (Psych 120B)
- * Computer Systems Architecture (CS M151B)

*Extracurricular Activities:*

- UCLA Archery Team | UCLA MentorSEAS | Hacker Fund 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 and chosen as a Devpost Staff Pick.