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: 3.38

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)
- Neural Networks (Psych 186B)
- Machine Learning (Coursera)
- * Computer Networks (CS 118)
- Logic Design of Digital Systems (CS M51A)
- Digital Design Laboratory (CS M152A)
- Computer Systems Architecture (CS M151B)
- 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)
- Product Strategy (Engr 113)

Extracurricular Activities:

- UCLA Archery Team | MentorSEAS | ACM - AI & VR/CG | Unity Instructor | Hackathon Mentor

Experience

Escality Games **Aug 2016 -**
Founder & Lead Developer

- Managing the development of a VR escape room game.
- Using the HTC Vive and Unity VRTK SteamVR C# plugin for Unity to manage Vive input and functionality.

Unity Technologies **June - Aug 2016**
Research Consultant - unity3d.com | Dr. Diana Ford
Virtual Reality Guided Narrative Techniques

- Implemented a C# neural network algorithm that activates predictive cues which grab the player's attention.
- Used in a demo on algorithmic creation of guided VR experiences at SIGGRAPH Anaheim.

UCLA Perceptual Processing Lab **June 2016 -**
Research Assistant - zililab.psych.ucla.edu | Dr. Zili Liu
Computational Motion Processing & Learning

- Wrote Matlab analyses for MT-V1 task-state fMRI data to better understand motion processing via SVMs.

Environmental Vertical Illusion in Virtual Reality

- Developed a VR experiment in Unity investigating the oculovestibular illusory perception of tilted rooms.

UCLA Rissman Memory Lab **June 2015 -**
Research Assistant - rissmanlab.psych.ucla.edu | Dr. Jesse Rissman
Neural Correlates of Fluid Intelligence

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

Avatar Learning in Virtual Environments

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

Projects

DodgeLodge **Apr 2016**

- Full-body VR dodging game, built using Unity, Microsoft Kinect V2, Oculus Rift, and Leap Motion.
- Used the Unity Kinect & Leap Motion APIs to map body joints and skeletal orientation.
- Top Ten Hack, at LA Hacks 2016.

WalkVR **Oct 2015**

- Walking-in-place VR experience, built using UE4, a Myo Armband, and an Oculus Rift.
- Used Myo's Lua SDK to trigger artificial walking based on leg acceleration and gyroscopic data.

Hartbeat **Sept 2014**

- Heart rate-based FPS demo built using UDK and an Arduino optical heart rate sensor.
- Wrote UnrealScript & Flash ActionScript that dynamically varied the in-game bullet spread based on the player's heart rate.

FindAR **Aug 2014**

- AR application using an Oculus Rift and a webcam to facilitate real-world search.
- Developed a C++ API for control of the application using a Pebble Smartwatch.
- Used OpenCV to apply color isolation filters to ease search for lost objects & acquire eigenfaces for facial recognition.
- First Place & Top Oculus Hack at Hero Hacks and a Devpost Staff Pick.

Skills

* = Most Experience In

Languages: *C#, *Matlab, C, C++, Python, Java, R, Bash/Shell, SQL, HTML/CSS
Tools: *Unity, UE4, UDK, *Git, SVN, Visual Studio, OpenCV
Hardware/Data: *HTC Vive, Oculus Rift DK1/DK2, Leap Motion, Arduino, Raspi, fMRI, DTI, EEG