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)
- 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)
- Computer Systems Architecture & Digital Design (CS M151AB)
- Linear Algebra & Discrete Structures (Math 33A & 61)
- Mathematical Modeling and Methods (CS 170A)
- Formal Languages and Automata Theory (CS 181)
- Phonetics & Phonology (Ling 103 & 120A)
- Entrepreneurship & Product Strategy (Engr 112 & 113)
- Advanced Game Development for Virtual Reality (CS 188)

Extracurricular Activities:

- UCLA Archery | MentorSEAS | ACM - AI & VR/CG | Cog. Sci. Student Assoc. | Unity Instructor | Hacker Fund

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 in VR.

UCLA Perceptual Processing Lab **June 2016 - May 2017**

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

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 - May 2017**

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

Avatar Learning in Virtual Environments

- Maintained 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's Kinect & Leap Motion APIs to track body joints.
- Top Ten Hack, at LA Hacks 2016.

WalkVR **Oct 2015**

- Walking-in-place VR experience, built on UE4.
- 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 used to dynamically vary the in-game bullet spread.

FindAR **Aug 2014**

- AR application using an Oculus Rift and a webcam to facilitate real-world search.
- Used OpenCV to apply color isolation filters for finding lost objects & to perform facial recognition.
- First Place & Top Oculus Hack at Hero Hacks and a Devpost Staff Pick.

Conference Presentations

(Complete list on my CV @ imatv.me)

The Method of Loci Revisited: Virtually Augmented Memory Palaces (2017).
Reggente, N., Essoe, J. K.-Y., Baek, H. Y., Ohno, A. A., **Vuong, A.** T., Rissman, J.
Mnemonic Mechanisms of Mental Navigation. Symposium, International Convention of Psychological Science.

Making VR Learning "Stick": Contextually Supported Transfer and Long-term Retention (2017).
Essoe, J. K.-Y., Reggente, N., Baek, H. Y., Ohno, A. A., Mehta, P., **Vuong, A.** T., Rissman, J.
Virtual Reality Clinical Neuroscience. Symposium, Society for Brain Mapping & Therapeutics Annual World Congress.

Essential Algorithms for Creating Guided Narrative VR Experiences (2016).
Ford, D., Lindberg, T., Mirand, A., Gorczycki, H., **Vuong, A. T.**, Cam, C., Waz, A., Herndon, M.
VR Guided Narrative Demo, *Busking for Change*, Unity Technologies, SIGGRAPH Anaheim.

Does Presence/Immersion Confer an Advantage in Learning in Virtual Reality? (2016).
Ohno, A. A., Baek, H. Y., Mehta, P. S., Yu Villa, J., Hughes, G. M., **Vuong, A. T.**, Reggente, R., Essoe, J. K.-Y., Rissman, J.
Stanford Undergraduate Psychology Conference & UCLA URW. Outstanding Poster Award.

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