

# Jonathan Cole

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## Professional Summary

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I am a graduate student and software developer at the University of Maine. Through my work I have gained a broad skill set, and have worked on projects ranging from research-oriented virtual reality (VR) simulations to augmented reality (AR) hardware projects to frontend web interfaces for open video annotation models. I seek to continue my work in bringing innovation to human-centric computing that matters.

## Skills

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- Languages include C#, Python, Swift, C++, and Java
- Unity3D and interactive design in VR (HTC Vive, Oculus Rift, Leap Motion)
- OpenCV and computer vision techniques
- Mobile app development
- Human-Computer Interaction
- Agile/Scrum

## Experience

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### Software Developer

**Virtual Environment and Multimodal Interaction Lab** ([vemilab.org](http://vemilab.org)) – University of Maine, Orono, ME  
September 2011 – Present

- Created several projects across multiple domains, including virtual and augmented reality
- Developed several VR/AR simulations using Unity3D; responsible for code, art, and level design in both solo and team projects
- Created an immersive VR driving simulator which evaluates driving behaviors in an experimental setting; used to study the effects of age-related eye disease on driving ability
- Worked with several human interface devices, including the Leap Motion, HTC Vive, Microsoft Kinect, and optical marker tracking systems by Phasespace and WorldViz
- Currently working with Dartmouth faculty on a web-facing implementation of an open video annotation model
- Designed architectural visualizers for iOS and Android

### Graduate Teaching Assistant

**Computer Science Department** – University of Maine, Orono, ME  
September 2015 – Present

- Courses include Introductory Visual Basic, Introductory C++, Introductory Python, and Data Structures in C++
- Graded and consulted for ~80 students per semester

### Customer Specialist

**Best Buy** – Bangor, ME

August 2009 – September 2011

- Responsible for customer interaction and computer sales in an interactive team environment
- Learned about the climate of the consumer electronics market

## Education

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### **B.S. – Computer Science**

**University of Maine, Orono**

Spring 2015

- Final research project was the creation of an augmented reality hardware extension for the Oculus Rift. Significant focus was given to high-performance computer vision.

### **M.S. – Spatial Information Science and Engineering**

**University of Maine, Orono**

Spring 2017 (Expected)

- Skills/domains learned include ArcGIS, R, Prolog, spatial statistics, databases, and data streams
- Research focus on augmented reality for sensory compensation

## Additional Information

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- Three-time winner of the University of Maine Center for Undergraduate Research (CUGR) grant award
- Mensa member
- Created personal projects in Unity3D, from games to inspector extensions for EMGU
- Developed iOS app for an exhibit in the Children's Discovery Museum in Bangor, Maine
- Second-degree black belt in Taekwondo
- Played trumpet and French horn for symphonic, concert, and pep bands