

Andrew Mendez

12700 Orpington St. Orlando, FL 32826

Phone: 954-993-4372

Email: mendeza@knights.ucf.edu

Website: <http://andrewmendez.me>

LinkedIn: <https://www.linkedin.com/pub/andrew-mendez/94/59b/961>

Education

- **Bachelor of Science Degree in Computer Engineering with minor in Mathematics** Aug 2011- May 2015
University of Central Florida Orlando, FL Overall GPA of 3.48, Minor GPA of 3.7 on a 4.0 scale
- **Associate of Arts Degree Granted Concurrently with High School Diploma** June 2011
Broward College Davie, FL GPA of 3.56 on a 4.0 scale

Computer Skills

- **Languages and Libraries:** JavaScript, Node.js, Java, C++, C, openFrameworks C++ toolkit, WebGL, OpenCV, Android SDK.
- **Concepts:** Object Oriented Programming, Algorithm Analysis, Data Structures, Mobile App Development, Image Processing, Computer Vision, Serial UART communication, TI MSP-430 Microcontroller System.
- **Courses taken:** Object Oriented Programming in Java, Algorithm Analysis in Java, Data Structures in C, Object Oriented Software Development, Embedded Systems, Computer Graphics in WebGL

Experience

Massachusetts Institute of Technology Summer Research Program intern June-Aug 2014

MIT Media Lab, Smarter Objects Project, Prof. Pattie Maes and Valentin Heun

Smarter Objects is an Internet-of-Things platform that utilizes an augmented reality (AR) interface to modify and re-program the functionality of household objects.

- Built a node.js web server that queries a geo-indexed MongoDB database. This server connects to an iOS application and links this application to Wifi enabled Smarter Objects located near the user.
- Utilized node.js to develop a RESTful web service, which hosts content that defines Smarter Objects' properties and functions and hosts information needed for iPad to generate an AR interface.
- Created a discovery service using node.js and UDP. This service automatically sets up a peer-to-peer network that allows the users and Smarter Objects to communicate and interact with each other.
- Programmed with Socket.IO and node.js to build an embedded system webpage service that uses a webpage downloaded from the RESTful server as an interface to allow the user to modify the properties and functions of Smarter Objects in real-time. Developed and tested this service using Arduino Yún and Carambola 2 embedded systems.

Massachusetts Institute of Technology Summer Research Program intern June-Aug 2013

MIT Media Lab, AnnoScape Project, Prof. Hiroshi Ishii, Austin S. Lee, and Sheng Kai (Tony) Tang

AnnoScape is a shared 3D virtual workspace platform used for remote collaborative review.

- Developed an iOS application where users on a network can draw digital sketches and collaborate in a 3D virtual workspace in real-time.
- Programmed using the openFrameworks C++ toolkit to create a client-server network.
- Created a client iOS application using openFrameworks iOS C++ library and OpenGL.

Human Computer Interaction Research Intern, Iowa State University May-Aug 2012

Virtual Reality Applications Center, Depth Perception in Virtual Environments, Prof. Jonathon Kelly

- Researched how to improve distortion of depth perception in 3-D virtual environments.
- Developed a data processing program in C++ to analyze vector trajectories from pilot study.
- Collaborated with team members to devise a method that decreased distortion by 34 percent.

Undergraduate Researcher, UCF Computer Vision Lab Jan-April 2012

Prof. Mubarak Shah and Oliver Nina

- Researched Text Detection, Gesture Recognition, and Human-Pose Estimation.
- Developed and Co-designed a gesture classification program that compared gesture trajectories from recorded Kinect joint skeletons using the k-means algorithm, OpenNI, and Matlab.

Noteworthy work

Google Glass Explorer

Nov 2013-present

- Creating a delay audio frequency app with Android GDK and Android SDK to aid users who have speech impediments.

Third Surface: ACM UIST 2014 Conference Poster

July 2014

- Contributed to the project, Third Surface, by editing the paper and developing the global target service using node.js and MongoDB. This project was a poster submission that described an Augmented Reality World Wide Web in a local physical space.

HackMIT

Oct 2014

- Co-developed a Google Glass application called Eye-identify, an application that uses image processing API's to scan for text, read barcodes and QR codes, and even identifies corporate logos. We envisioned this application to be a contextual scene analysis search engine that provides insight about the world around you in an instant.

HackFSU

April 2014

- Implemented a mobile augmented reality system using the openFrameworks iOS C++ library. The hardware used in developing the system included an iPhone and Pico pocket projector.
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Debugger project, Embedded Systems course

March 2014

- Developed an assembly language program that implements a debugger in the MSP-EXP430G2 Microcontroller system. The program enables the user to communicate to the MSP-EXP430G2 using the board's software Serial UART communication.

Program Manager, Processes of Object Oriented Software Development course

Aug -Dec 2013

- Developed a location based role-playing game using Android 4.3 Jelly Bean SDK.