

# Andrés Vargas González

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<http://andnovar.appspot.com>

Interactive Systems and User Experience Research Cluster,  
University of Central Florida (UCF)  
Orlando, USA

## EDUCATION

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### **Engineering Degree in Computer Science**, Major in Multimedia Systems (2005 – 2010)

Department of Electrical and Computer Engineering, Escuela Superior Politécnica del Litoral (ESPOL)

Dissertation: “Usability of a multimedia information system on a DIY low-cost multi-touch screen” Advisor: Katherine Chiluiza. Guayaquil, Guayas, Ecuador

### **Master of Science Degree in Computer Science**, (2012 – 2014)

Department of Electrical Engineering and Computer Science, University of Central Florida (UCF)

Dissertation: “SketChart: A Pen-Based Tool for Chart Generation and Interaction” Advisor: Joseph J. LaViola Jr.  
Orlando, Florida, USA

## PROFESSIONAL EXPERIENCE

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### **PhD Student at ICE Research Cluster at UCF**. Orlando, Florida 08/2014 –

Currently developing authoring tools for intelligent tutoring systems in Augmented and Virtual Reality. Additionally, I have done research on intelligent user centric interfaces involving sketch recognition for math and statistics. I have also conducted user studies to evaluate interfaces and interaction techniques through qualitative and quantitative measurements. Some work can be seen on my personal website <http://andnovar.appspot.com>.

### **Google Summer of Code 2015, Python Software Foundation, Kivy**. Orlando, Florida 05/2015 – 08/2015

Develop components to support matplotlib in Kivy framework as well as Ink for sketch based applications.

Documentation and examples were provided for both components. A timeline of the experience can be found at <http://andnovar.tech/category/gsoc2015/>

### **Technical book reviewer for PACKT: “Kivy: Interactive applications in Python”**. Orlando, Florida 08/2013

I helped with the book review <https://www.amazon.com/Kivy-Interactive-Applications-Roberto-Ulloa/dp/1783281596>. I mainly tested the code from the book, gave feedback, suggestions and critics about the book.

### **Web Development Intern, Educational Data Resources**, Orlando, Florida. 05/2013 – 07/2013

Implement reusable components to add, modify and delete entities and relationships related to the authentication system using Zend PHP.

### **Information Technology Centre, ESPOL**, Guayaquil, Ecuador. 08/2009 – 07/2012

Research on multi-touch interfaces for information systems. Manage servers for video streaming around the university campus using ffmpeg and VLC. Develop web applications such as <http://administracion.ces.gob.ec> and <http://capacitacioncaf.espol.edu.ec>.

## PUBLICATIONS

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–Vargas González, A.N.; Kapalo, K.; Koh, S.L.; LaViola, J.J. Exploring the Virtuality Continuum for Complex Rule-Set Education in the Context of Soccer Rule Comprehension. *Multimodal Technologies Interact.* 2017, 1, 30.

<https://youtu.be/e80lvpZbGrg>

– Vargas, A., Williamson, B., LaViola, J., Sottolare, R., “Authoring Augmented Reality Scenarios for Intelligent Tutoring Systems with GIFT”, 2017, Proceedings of the 5<sup>th</sup> Annual GIFT Users Symposium (GIFTSym).

– Vargas González A.N., Taranta E.M., LaViola J.J. (2017) Sketch Based Interaction Techniques for Chart Creation and Manipulation. In: Hammond T., Adler A., Prasad M. (eds) *Frontiers in Pen and Touch. Human-Computer Interaction Series*. Springer, Cham.

– Eugene M. Taranta, II, Andrés N. Vargas, Spencer P. Compton, and Joseph J. LaViola, Jr.. 2016. A Dynamic Pen-Based Interface for Writing and Editing Complex Mathematical Expressions With Math Boxes. *ACM Trans. Interact. Intell. Syst.* 6, 2, Article 13 (July 2016), 25 pages. DOI: <http://dx.doi.org/10.1145/2946795>

– Eugene M. Taranta, Andrés N. Vargas, and Joseph J. LaViola. 2016. Streamlined and accurate gesture recognition with Penny Pincher. Comput. Graph. 55, C (April 2016), 130–142. DOI: <http://dx.doi.org/10.1016/j.cag.2015.10.011>

## ACADEMIC ACHIEVEMENTS

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3rd Place – SwampHacks IV Hackathon at University of Florida. 01/2018 <https://devpost.com/software/3dsnap-stvk7d>

Fulbright fellowship at University of Central Florida 07/2012 – 05/2014

1st Place – Best Innovative Business Idea by CEEMP-ESPOL (2010)

1st Place – Best Poster in Session TICs and Education sponsored by ESPOLCIENCIA 2010 – Jan 19–21 2010

2nd Place – Innovation Tournament Ecuador sponsored by Stanford Technologies Venture Program – Nov 2009

Equity and Excellence Scholarship. Escuela Superior Politécnica del Litoral (2006 – 2009)

Special Program for Students with high GPA. Allowed me to finish High School in 4 years.

## SKILLS

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- Programming Languages: Python, Java, C#, JavaScript.
- Development tools: Visual Studio, Eclipse, Unity 3D, Maya (mesh editing), Steam VR, Hololens.
- Operating Systems: Windows and Linux.
- Database Engines: mysql, postgresql, cassandra
- Languages: Spanish, English.
- Git: <http://github.com/andnovar>