

JUAN SEBASTIAN MUÑOZ ARANGO

Little Rock - Arkansas

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EDUCATION

PhD Integrated Computing Inf. Sci. • University of Arkansas at Little Rock, United States - Little Rock Arkansas 2015. Expecting graduation 2019

Systems Engineering Comp. Sci. • Universidad EAFIT, Medellin - Colombia. 2004-2009

HONORS AND AWARDS

- Participated and won community favorite's Leap Motion 3D jam 2015 with Potel: Pottery maker.
- Participated in the Unity Awards 2008 with Indie Riffs and Project Cloudwitch
- GEMIS awards 2004 (Category: Data Structures and algorithms)
- GEMIS awards 2005 (Category: Data Structures and Algorithms)

WORK HISTORY

Research Assistant - UALR - Little Rock Arkansas. (August 2015 - present)

Programming

- Created Potel, a pottery creator for tangible art under the guidance of Dr Carolina Cruz. <http://www.pencilsquaregames.com/2016/01/introducing-potel-a-pottery-maker-simulator-for-vr/>
- Created a visualization for optimal agent placement coverage on procedural generated cities in Unreal Engine. <http://www.pencilsquaregames.com/2016/04/procedural-city-visualization-and-moveable-agents-coverage/>
- Helping out with internal projects in the Emerging Analytics Center at UALR.

Demo team programmer - Metavision - Redwood city CA (Summer 2016)

"Internship"

- Worked on project "Lightspeed", a demo that showcases the capabilities of the *Meta 2* AR headset for investors; I was in charge of communicating external devices with the prototype headset among other tasks. www.metavision.com

Freelancing - Consulting - Medellin (August 2014 - August 2015)

Programmer

- Released SRTTranslate, a simple tool for translating .srt subtitles to any language written in python. <https://github.com/naruse/SRTTranslate>
- Released Pro Material Combiner, a tool that automatically combines materials automatically on meshes (Works for Mobile, Consoles, Stand Alone). <http://u3d.as/btQ>
- Helped out on Dream Fall Chapters by Red Thread Games with the mouse movement on all 3 OSes (Linux, Mac, Windows). <http://dreamfallchapters.com/>
- Ported the Input system for Samsung TV for Nitro Chimp in Unity3D. <https://itunes.apple.com/en/app/nitro-chimp/id557150450?mt=8/>
- Released Pro Draw call optimizer, a tool that reduces draw calls on Unity3D projects by atlasing and re-mapping UVs automatically. This tool works with any platform (Mobile, Consoles, Stand Alone). <http://u3d.as/7ad>
- Working and investigating about procedural generated content for personal projects.

Lecturing - Consulting - Dubai (February 2013 - August 2014)

Programmer

- Worked at MiddleSex University - SAE institute half time delivering classes for the Games programming degree.
- Released a mouse wrapper package for the asset store that can let the user control the mouse position on Windows/Linux/Mac transparently regardless the platform the user is building against to. <http://u3d.as/4Vy>
- Released a parametric primitive package for the asset store that can be used also via code. <http://u3d.as/4AE>

- Released a Pivot modifier for meshes on the asset store. <http://u3d.as/4Lk>

IVD DilBrands - Chile (February 2011 - February 2013)

Lead Programmer

- In IVD DilBrands I was the lead developer of IVD3, a tool that allows us to measure people reactions in immersive virtual environments. By using biometric sensors is possible to measure brand visibility in supermarkets, and more lately, the effectiveness of safety mechanisms in copper mines.
- Created a “layout importer” and “product organizer” to reduce the manual work for creating supermarket layouts from weeks to hours. Later this importer worked on iPad. <http://www.pencilsquaregames.com/2011/07/unityception-load-content-created-in-unity-from-a-build-made-with-unity-to-unity/>.

Freelancing - Consulting (January 2011 - February 2011)

Programmer

- Worked as a Unity3D consultant. The most interesting project during this period was a simulator for dam design. I helped the company to transform several GB of vertex data to a couple of MB. Enough to make it suitable for web publishing.
- Released a console renderer for PS3 using the unofficial SDK provided by the homebrew community. The project can be found here: <https://github.com/naruse/PS3Print> The project was used as a debug rendering tool on the Unity Wii player.

Unity Technologies - Copenhagen (July 2009 - January 2011)

Doc Engineer

- Moved to Copenhagen to work as a doc engineer for the Unity documentation. This involved the creation of samples for new features, tutorials and general maintainance to keep the documentation up-to-date. The per-device organization that is currently used (Android, iOS, Desktop, Xbox, PS, and Wii) was one of my responsibilities.
- Created tools for optimizing the documentation creation workflow. I wrote a documentation build system and a compiler to automatically convert JavaScript example code into C# and Boo.
- Was in charge for the Debugger testing for Unity 3.x.

Personal Projects (February 2009 - July 2009)

Game Programming - Freelancing

- During this period I worked on some prototyping for some pet projects that included a “Hanoi Towers” Demo in Unity3D and a “Rubik” game both ran on iPhone, also created from scratch a physics puzzle game for the iPhone that I called “Let Em Down”.
- Developed a parser and a surface Generator for dam simulations in Unity3d + Ruby.
- Created a tutorial for teaching scripting in Unity3D for UnityTutorials, the projects included a “Police car racing game” and the development of an “Inventory System” for RPGs.

Finally I worked on a stock market Visualization for the Colombian market for my College thesis.

C2EStudio (July 2008 - February 2009)

Game Programmer

- I started to work on this company after my internship, here I got my first approximation to game development, during this period I got assigned a “whac a mole” project to be developed in Unity.
- Programmed a “Guitar hero” clone for a local band in Unity, this Project participated in the UA2008 (<http://forum.unity3d.com/viewtopic.php?t=14569>)

- Helped with the programming part for the score system, Input Management System, and developed other features of Project Cloudwitch, A project that also participated in the UA2008 (www.cloudwitch.com).
- Worked on cloth simulation in Unity3D (Where there where no cloth physics in the engine) (<http://juanmunozar.blogspot.com/2008/06/cloth-physics.html>) and also on a tech demo for simulating water surfaces in Unity3D.

Universidad EAFIT - Virtual Reality Laboratory (August 2006 - December 2007)

Half-time Research Assistant

- Developed the collision detection system for a laparoscopic surgery simulator using a collision hierarchy in order to find faster the triangle that collided with the laparoscopic instrument in C++.
- The team also focused on creating the physics model in order to make the simulator closer to reality.
- The last efforts with the simulator have been the creation of new hierarchies to envelop the triangles that form the organ.

Universidad EAFIT (January 2006 - July 2006)

Numerical Analysis Monitor

- I solved questions from the students of the subjects Numerical Analysis and Numerical Processes and helped them programming numerical methods.

PROJECTS

Some pet projects I'm currently working on include:

- Reconstruction of 3D objects in realtime with VR Headsets and Depth sensors.
- STL importer and exporter for Unity 3D.

Past projects:

- Procedural tile system for replicating Dungeon Keeper tiles.
- An API for simplifying the Input on PS3 Homebrew apps
- Working with a friend of mine on a stealth-adventure game for the iPhone.
- A Console Renderer for debugging rendering on the PS3.

SKILLS

- Familiar Emacs, GNU/Linux, MS Windows, Mac OS X
- Proficient in software development using C#, Unity3D, Photoshop/Illustrator

LANGUAGES

- Spanish, English - Fluent
- Danish - Intermediate

CONTACTS

Dr. Carolina Cruz Neira (University Of Arkansas at Little Rock)

Director Emerging Analytics Center

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Dr. Helmuth Trefftz (Universidad EAFIT)

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Eng. Luis Carlos Correa (C2Estudio S.A)

Lead Programmer

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Ricardo Arango (Unity Technologies Aps)

Premium Support Lead.

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Robert Cupisz (Unity Technologies Aps)

Graphics Programmer

- robert@unity3d.com