

# Chase Ruppert

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## EDUCATION

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**M.S., Interactive Entertainment • 3.6 GPA** 2008

Florida Interactive Entertainment Academy (FIEA) at the University of Central Florida

**B.S., Computer Science • 3.6 GPA** 2007

University of Central Florida - President's Honor Roll, Dean's List

## LANGUAGES, SDKs, SOFTWARE

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**Languages:** C/C++, C#, GLSL, Python, Assembly, XML, HTML/CSS, ActionScript, JS, SQL/HIVE

**SDKs:** PS4, XBone, XBOX, OpenGL, Unity, Unreal/UDK, Gamebryo, OSG, Delta3D, Panda3D, Qt

**Software:** Visual Studio, P4/git/SVN, gcc/gdb, LLVM/LLDB, XCode

## WORK EXPERIENCE

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**Electronic Arts** 2011 - Present  
*Software Engineer, Origin* Redwood City, CA

- Serves as primary contact for supporting and maintaining Origin client user login and authentication, which is used by millions of gamers daily.
- Provides game team support for key AAA game titles, such as Battlefield: Hardline, FIFA, Battlefield 4, Titanfall, and many others.
- Worked with PS4/Xbox One beta console hardware by porting C++ telemetry reporting API from PC and changed the API to allow asynchronous metrics collection of SDK usage.
- Resolved over 60% of Origin's crashes and 50% of login issues by analyzing crash reports, working with domain experts and investigating telemetry.
- Authored several tech briefs for medium-sized Origin features, documenting key architecture and implementation choices, alternative solutions, possible risks and mitigation strategies.

**Electronic Arts** 2013  
*Gameplay Engineer, Unity (New IP)* Redwood City, CA

- Prototyped a multiplayer FPS arena shooter in Unity using C# with a team of about 30 engineers, game designers, and artists.
- Developed power-ups system that provided an abstract interface for the base player class to initialize, start, update, and end a power-up.
- Created a cloaking power-up that used a refraction shader (in GLSL) to alter the player's appearance.
- Wrote a normal-mapped shader in GLSL that incorporated a Blinn-Phong lighting model for character rendering and supported dynamic team color mapping.

**Lockheed Martin** 2008 - 2011  
*Rendering Engineer* Orlando, FL

- Contributed to the success of three separate graphics and game engines written in C++, shipping several training products domestically and internationally within budget and on time.
- Played key role in performance, content pipeline, and runtime streaming technologies to allow real-time rendering of extremely large (up to 300 km x 300 km) detailed worlds rendered in OpenGL.
- Created content pipeline that supported GPU instancing, ground texture blending, and paging.
- Wrote memory allocator that tracked leaks and detected buffer overruns and memory corruption.

**Zephyr: Tides of War**

2007 - 2008

*Gameplay Engineer**Orlando, FL*

- Developed voice-activated game in C++ with a team of five programmers, five artists, and six producers.
- Implemented a XML-driven mission system that allowed spawning, timed events and volumetric triggers.
- Implemented dynamic shadow system and worked alongside artists to integrate model animations.

**Morphin' Marvin**

2007 - 2008

*Lead Engineer**Orlando, FL*

- Developed Morphin' Marvin, an award-winning, revenue-generating 2D Flash game for Shockwave.com, using ActionScript 3.0, during personal time.

**UCF Computer Vision Lab**

2007 - 2008

*Research Assistant**Orlando, FL*

- Detected and tracked objects via video surveillance using a fixed-point digital signal processor (DSP) and C.

**United Space Alliance (USA)**

2005 - 2006

*Computer Science CO-OP**Houston, TX*

- Verified and tested reusable C++ components for Space Shuttle Flight Software Application Tools.
- Automated transfer of NASA Space Shuttle mission-critical data and supporting data from database sources.

**Cert-O Interactive & Biometrics DSI**

2004

*Lead Programmer CO-OP**Orlando, FL*

- Developed +15,000 source lines of C++ .NET code for a biometrics (finger-scanning) managerial application.
- Transitioned a new programmer into the biometrics project and authored a user's guide for the application.

**ACADEMIC EXPERIENCE**

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**Xbox XDK/Console Development**

- Created a cross-platform, 3D text-rendering, networked, XML-driven game engine in C++, which builds and runs for Xbox, OpenGL and DirectX (completed in six, 40-hour weeks).
- Developed an OpenGL PC game in C++ and ported it to Xbox.
- Integrated a memory allocator and eliminated over 700 memory leaks in 22 hours.

**Computer Graphics**

- Applied Blinn-Phong shading, cube-mapping, projective shadows and reflections, and ray-tracing.

**Multi-threading & Networking**

- Implemented UDP 3-way handshake in C++ game engine.
- Developed multi-threaded TCP/IP client and server applications in C#.

**PERSONAL PROJECTS**

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**Custom Game Engine (C++)***Engine Programmer*

- Continues development of self-created, cross-platform XML-driven game engine that supports XBOX, PC (OpenGL/DirectX), and Mac platforms.
- Supports basic UDP networking and physics (collision detection and reactions).