

## Skills

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### Programming Languages:

- C++, C, JAVA, LUA, PHP, Unrealscript, ActionScript 2.0/3.0, GLSL, CUDA, C#

### Development Tools:

- Adobe Photoshop, Adobe Flash, Visual Studios, Eclipse, Perforce, Parse, gDEDebugger, 3DS Max

### Other:

- Android Native Development, Multi-Threaded Development, GPU Development

## Individual Projects

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### Clustered Deferred Shading (Thesis)

- Developed using C++, OpenGL 4.3 and CUDA
- Current implementation supports 4096 dynamic point lights
- Can be easily ported to clustered forward shading

### 3D Terrain Rendering

- Implemented in OpenGL using tessellation shaders
- Geometry shaders used for grass rendering with frustum culling for individual patches of grass
- Water shader reflects the geometry around it, including final scene lighting

### Animation System

- Tree structure used to determine the current animations to use and/or blend
- Animation key frames exported using a custom 3DS Max plugin
- Animations decoupled from model to allow for easy loading and unloading of animations

### Rigid Body and Collision Detection

- Supports AABB, Oriented bounding boxes, spheres, and planes
- Uses static and dynamic bounding trees with AABBs as the bounding nodes

### Navigation Mesh

- Automatically generated navigation mesh based on placed geometry and actor size
- Used for A\* pathing by state based steering agents

## Team Games

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### 2013 (6 Months) Team C Studios – *Armourgeddon*

Plano, TX

- Developed a 3<sup>rd</sup> person, steampunk, action game using the Unreal Engine
- Implemented A.I functionality for 7 unique enemy types
- Implemented HUD, Main menu, and Pause menu functionality using Adobe Flash and ActionScript
- Team Size: 14 Members (3 Programmers)

### 2013 (5 Months) Order 166 Studios - *DeathBall*

Plano, TX

- Developed an online multiplayer FPS using the Unreal Engine
- Implemented A.I. bot functionality for single player mode
- Worked closely with artists and designers to implement game features
- Team Size: 8 Members (Sole Programmer)

### 2012 (3 Months) Abominable Studios – *Salvage Runner*

Plano, TX

- Developed a 2D, top-down, space flight game
- Team Size: 5 Members (Sole Programmer)

## Education

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### 2012-2014 The Guildhall at SMU

Plano, TX

- Master of Interactive Technology (MIT) in Digital Game Development
- Specialization: Software Development

### 2007-2011 Texas State University

San Marcos, TX

- Bachelor of Science (B.S.), Computer Science