

# Christopher H. Willoughby

Engine/Graphics Programmer  
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## Skills

### Teamwork

- Self motivated
- Excellent communication skills
- Solution-oriented problem solver
- Technical leadership experience

### 3D Math

- Linear Algebra
- Physics

### System Architecture

- Design patterns

### Programming Languages

- C/C++/x86 ASM/PPC ASM/C#/VB
- CG/HLSL
- SQL
- MEL Script

### Real Time Programming

- Open world development
- Rendering (with shaders)
- Streaming
- Advanced animation
- Multithreading

### Embedded Development

- Xbox 360
- PS3
- Game Boy Advance

### Application Programming Interfaces

- Unreal Engine (3.0+)
- Microsoft DirectX (5.0+)
- OpenGL (1.0+)
- Win32/MFC/wxWidgets
- Maya (6.0+)
- Havok

### Optimization

- PIX for Xbox/Windows
- XbPerfView

### Source Control

- P4/CVS/SVN/Alienbrain

### Development Software

- Microsoft Visual Studio
- Microsoft Office
- Microsoft Visio
- Oracle/MS SQL

## Experience

### Surreal Software/Midway Games 10/2006 - Present

- Transitioned from recent graduate to reliable professional
- Successful member of gameplay, simulation, and engine teams
- Worked to find elegant solutions to complex problems
- Juggled numerous responsibilities efficiently

### ATG Graphics Programmer Seattle, WA

- Exceeded goals independently
- Designed and managed tasks bound for other programmers
- Wrote detailed technical design documents and email
- Honored with quarterly "Over the Top" award in 10/2007

### Interyx LLC 10/2000 - 12/2004

- Member of the LLC
- Lead a team of five programmers
- Utilized Oracle and Microsoft (SQL/Access) databases

### Lead Programmer Casper, WY

- Designed and implemented mission critical applications
- Became skilled with Visual Basic (6.0/.NET)
- Mastered SQL

## Projects

### This is Vegas (Xbox 360/PS3/PC) Surreal Software/Midway Games 10/2006 - Present ATG Graphics Programmer

- Spearheaded creation of modular character generation solution
- Delivered characters/vehicles at 25% below memory estimates
- Established and optimized character/vehicle art pipeline/tools
- Responsible for character/vehicle shaders and rendering
- Created adaptive character/vehicle streaming solution
- Implemented anim pose sharing and other optimizations
- Fine tuned animation based interactions
- Actively contributed new ideas to art and design teams

### Dungeon of Glory Academic Project

- 3D dungeon crawler - Action/RPG
- Designed and constructed procedural dungeon generator
- Demonstrated skinned animations (Hardware/Software)

### 05/2006 - 09/2006 Technical Lead

- Implemented renderer abstraction (OpenGL/Direct3D)
- Created Maya exporters (Model/Animation/Appearance)
- Produced detailed Design and Technical documentation

### iCDC Interyx LLC

- District Court case management system
- Utilized Oracle 9i database back end
- Implemented XML driven data conversion process

### 01/2002 - 12/2003 Lead Programmer

- Worked with Clerk of District Court
- Implemented credit/debit based accounting system
- Designed auto-update application to keep client updated

## Education

Full Sail Real World Education 01/2005 - 09/2006  
Bachelor of Science Degree in Game Development

- Valedictorian
- Winter Park, FL
- 3.94/4.00 GPA

Casper College 2003  
Associate of Science Degree in Computer Science

Casper, WY