

# Resume of Jim Brooks Game Developer

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## Cover Letter

Current resume/CV and e-mail address is at:  
<http://www.jimbrooks.org/web/misc/resume.html>  
 Internet version of my public resume is obscured.

### Summary:

## Game Developer (Software Engineer and 3D Modeler/Artist).

### Location:

## Tampa / Orlando, Florida

### Current experience:

**Android apps** mostly wrote in C++ using Android NDK  
**Game programming** Android, OpenGL, XBOX 360  
**3D graphics** 3D engine design, OpenGL, shaders, OpenSceneGraph  
**Flight simulators** full-up simulators, procedures trainers

### Older experience:

**Internet client/server** BSD sockets, Java client apps, UNIX/C++ server apps  
**Linux system programming** device drivers, adapting kernel to new hardware  
**x86 CPU architecture** assembly code, Intel x86 clone startups

## Technical Skills

**Programming languages:** C++, Lua, Java, Python, design patterns  
**Graphics programming:** [3D engine design](#), OpenGL, OpenSceneGraph, shaders  
**Shipped video game titles:** F-42 Night Manta, EA Madden NFL 2007

## Software Projects

### Palomino Flight Simulator

### Game Publishing



videos [magazine article \[alt\]](#)

Developed the open-source [Palomino flight simulator](#) written in C++ and Lua.  
 Created many but not all of these 3D models.

## 2005...present Graphics/Game Programming

### Game Developer - [Palosim LLC](#)

2010...present

**Specialist in simulation games, mobile app game developer, Android programmer.**

Developer of flight-sim and car-racing simulation games.

Developed an efficient flexible 3D engine in C++

designed for (but not limited to) mobile systems (Android, Apple iOS).

The major parts are of this engine are its scene-graph, shader system (OpenGL ES 2), collision-detection algorithms, object reference-counting for reliability, and a special compact 3D file format that Blender can export.

Developed physics models for aircraft and cars.

The C++ core of these games can be scripted with Lua.

Besides programming, created art for the games using GIMP and Blender.

### Simulation Software Engineer - (private)

2008...2008 - Jupiter, Florida

Task was to "make the graphics dazzling" of a ROV (submarine) simulator.

Used OpenGL shaders and developed fx for underwater (underwater particles, ROV spotlights, fog fx varied by water depth).

### Flight Simulator Software Engineer - (private)

2006..2007 - Melbourne, Florida

C++/graphics programmer for a military flight simulator (full-up procedures trainer). Task was to develop new fx such that a pilot felt like he was flying thru a real atmosphere. Used procedural-texture techniques to render in real-time very detailed clouds comparable to Microsoft Flight Simulator X. Developed weather fx such as lightning bolts and illumination of clouds from lightning flashes. Graphics programming was done in C++, OpenGL shaders, and OpenSceneGraph (OSG).

### Software Engineer II - Electronic Arts (Tiburon)

2005...2006 - Orlando, Florida

Game programmer for [Madden NFL 2007](#) video game (XBOX 360, Direct3D) at EA/Tiburon. 3D graphics programming (camera control for animation, replaced Euler with matrix math), online game mode (leaderboard, player stats), game screens/menus, debugged many problems remaining from Madden 2006. Created a "flying camera" cinematic fx for football events. Created a special game mode used by artists to create TV ads for Madden.



### 2000...2005 Linux/UNIX Programming

#### Software Engineer - (private)

2003...2005 - Tampa, Florida

UNIX programmer. Developed Internet software on UNIX servers.

#### Sr. Software Engineer - (private)

2000...2002 - Silicon Valley and San Diego, California  
Linux system programming. Wrote device drivers and adapted the Linux kernel for new hardware boards.

### 1994...2000 Microprocessor Engineering

#### Sr. Software Engineer - Chromatic Research (ATI/AMD)

1997...2000 - Silicon Valley, California  
Developed microcode for a RISC processor to emulate an x86 processor. This "microcode" was really hidden RISC assembly routines that emulated x86 CISC instructions and modes of the x86 architecture such as exceptions and page mode.

#### Validation Engineer - Transmeta

1997...1997 - Silicon Valley, California  
CPU verification. Wrote directed and randomized tests in x86 assembly.

#### Verification Engineer - Texas Instruments

1994...1997 - Dallas, Texas  
CPU verification. Wrote CPU tests in x86 assembly language (TI Amazon 80586). Wrote PC BIOS for system bring-up. (TI, Transmeta, and Chromatic Research cloned Intel microprocessors which succeeded technically but not commercially.)

### Patents

Co-inventor of U.S. patent #5,826,084 [[HTML](#), [PDF](#)] in microprocessor architecture (Texas Instruments).

### Publications

Co-author of "[Virtual Mode Extensions on the Pentium Processor](#)" [[alt](#)] Electronic Engineering Times .