

# Sean Kelly

Entertainment Engineer

sean@psychsoftware.org  
http://www.psychsoftware.org/portfolio  
(773) 931-9139 (works, but e-mail contact is preferred)

Game Engineer with software and hardware background seeking a chance to get back into making existing tech do new things and/or making brand new tech work at all. Has worked independently on multiple gaming projects, and has successfully led a small cross-disciplinary team. 6 years professional experience focused on technology research and early-adoption initiatives and demonstrations in gaming, with a recent focus on web gaming and casino-secure server/client gameplay logic & architectures.

## Education

### **Carnegie Mellon University:**

**BS in Electrical & Computer Engineering (2007 - 3.63QPA)**

**MET from Entertainment Technology Center (2009 - 3.69 QPA)**

Relevant course list w/ descriptions available as separate document

## Work Experience

### **WMS Gaming (2009-2015)**

Senior Software Engineer II,  
Advanced R&D; Studio BetCloud

Internal design tools, novel peripherals, stereo 3D, social gaming (local & mobile; REST) managers: Tim Gronkowski, Mark Gagner, Matt Ward. Contact by request.

### **National High School**

#### **Game Academy (2008)**

Advanced Programming Instructor

Teaching tech to programmers and artists  
contact: Ruth Comely  
rcomely@andrew.cmu.edu

### **Schell Games (2007)**

Intern Game Engineer

Immersive interactive ride for WDI  
contact: Prof. Jesse Schell  
jschell@andrew.cmu.edu

## Sample Projects

### **SkyDragon Story**

(personal: JS canvas custom engine 2013-present)

2D puzzle "platformer," incl. object, map, dialogue, chiptune/fx, etc. systems

### **8-Bit Hero Trainer**

(personal: NES 6502ASM, 2015)

first-person real-time 8-bit RPG combat sim using NES Power Glove, Power Pad

### **BetCloud**

(WMS: C++ & NodeJS servers, JS clients) Concept on-property networked mobile & social wagering gaming suite

### **Tekunoma**

(academic/personal: C++ & Unity3D Mac/PC 2008-2012)

2D action RPG; procedural dungeons, graphics, items, etc.

### **Steam Roller**

(NHSGA demo: Python/Panda3D 2007)

3D rollerball race/puzzle, including home-brew traction & recoil physics

### **Toy Story Mania**

(Schell Games: Python/Panda3D 2007)

3D sound, scene, sim & test programming; hardware debug for interactive Disney ride

### **Galaxxon Legacy**

(academic/personal: C++ Mac/PC 2007-2009)

sh'm'up with flexible mission & weapon systems; bump-mapped sprite graphics

### **NMOS 6502**

(academic: Verilog 2006)

CPU of the NES, implemented at functional level & synthesized to FPGA

## **Relevant Skills:**

C, C++, C#, JS, HTML5, CSS, AS3, JAVA, PHP, Python, ML, Verilog, various LISP & BASIC derivatives, 6502 ASM; XHR/AJAX, REST, OOP, functional programming, graphics pipeline & shader theory; Visual Studio, gcc, XCode; Perforce, CVS; Adobe CS, Audacity, Blender, Autodesk Maya, Steinberg Cubase; createJS, Unity 3D, openCV; Windows (XP-7), MacOS (7.x-present), UNIX/Linux/Xwindows, DOS

## **Awards:**

- 2011 • WMS Above and Beyond F'11
- 2010 • WMS Innovator of F'11 Q1
- 2007 • CMU Honors Medallion
- 2004 • Spring, Fall CMU Engineering Honor Roll
- 2003 • Fall CMU Engineering Honor Roll
- 18-100 Robot Customization Project award
- 2002 • College Board National Merit Honorable Mention
- National Honor Society induction
- 2000 • **Eagle Scout award**
- Boy Scouts of America, Troop 1450 (Rockville, MD)
- Bronze & Gold Eagle Palms

## **Extracurriculars:**

- Carnegie Involvement Association buggy team: Head Mechanic / design support
- Carnegie Mellon Kiltie Band (dir. Paul Gerlach): Trumpet 1

## **Hobbies:**

- Video games (esp. older consoles)
  - playing
  - programming
  - reverse-engineering
- Music
  - digital arrangement
  - trumpet (esp. jazz/rock)
  - Power Glove (ask)
- Tea
  - collection, sampling
  - custom blending
- Swimming
- Culinary experimentation