

# BENJAMIN J. HUMBERSTON

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## PROFESSIONAL SUMMARY

Software engineer, researcher, and game developer with the goal of creating rich, interactive experiences. Commercial and student game development work for both web and desktop titles. Three years of research experience in computer graphics, interactive virtual environments, physics-driven character animation, and machine learning. Passion for building powerful systems and delightful user interfaces.

## INTERESTS

- Game development, computer graphics, and character animation
- Distributed and mobile computing
- Data-driven computing and machine learning

## EDUCATION

### MS, Computer Science

#### University of British Columbia

Thesis: *Precision Manipulations Using a Low-Dimensional Haptic Interface*  
Teaching assistant for courses in functional programming and AI

Sep. 2014 (expected)  
Vancouver, BC

### BS, Computer Science

#### Cornell University

Computer graphics and game development focus; GPA 3.98  
Former president of student digital games club and active in GDIAC program

May 2009  
Ithaca, NY

## EXPERIENCE

### Graduate Assistant in PhD program

#### Carnegie Mellon University

Research on data-driven computing and applications of machine learning to computer graphics

Sep. 2013 – July 2014  
Pittsburgh, PA

### Software Engineer

#### Electronic Arts (EA 2D studio)

Developer on browser-based *Dragon Age Journeys* and social RPG *Dragon Age Legends*.  
Roles in client- and server-side gameplay systems, rendering, and UI.  
Engineering ownership of character animation and turn-based combat systems.

Aug. 2009 – Apr. 2011  
Redwood Shores, CA

### Software Engineering Intern

#### Electronic Arts (Maxis studio)

Implemented gameplay and control features, improved graphical effects, and helped coordinate sound and music integration on unreleased expansion for *Spore* franchise.

Summer 2008  
Emeryville, CA

### Software Engineering Intern

#### Oracle

CPU and memory performance profiling on e-commerce framework

Summer 2007  
Redwood Shores, CA

## SKILLS

- Commercial game development for web and desktop titles
- Computer graphics, rendering, and linear algebra
- Threaded, multi-process, and distributed computing
- Character controllers for physically-based animation
- Multimodal virtual environment design with graphical and haptic rendering
- Machine learning applications for classification, regression, and data visualization
- *Languages:* C++, Java, Python, MATLAB, AS 3.0, C#, OpenGL, GLSL
- *Frameworks:* Tool development using Qt & Flex, MongoDB, numpy, scikit-learn
- *Platforms:* Windows, OS X, Linux, Android

## PUBLICATIONS

- M. Stanton, B. Humberston, B. Kase, J. F. O'Brien, K. Fatahalian, A. Treuille. *Self-Refining Games Using Player Analytics*. To appear at ACM SIGGRAPH 2014. Vancouver, BC.
  - B. Humberston and D. K. Pai. *Precision Manipulations Using a Low-Dimensional Haptic Interface*. MS thesis, University of British Columbia. Vancouver, 2014
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