

BEN HUMBERSTON

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PROFESSIONAL SUMMARY

Experienced software engineer creating powerful systems, tools, and user experiences. Application development across desktop, web, and VR. 6+ years professional experience in C++. Background in computer graphics, video games, telepresence, physically-driven animation, and VR. Building collaborations across teams to deliver solutions with a scalable code base.

INTERESTS

- Computer graphics, game development, developer tools
- Real-time communication, telepresence, networking
- Machine learning and scalable cloud applications

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
Vancouver, BC

BS, Computer Science

Cornell University

Computer graphics and game development focus

May 2009
Ithaca, NY

EXPERIENCE

Software Engineer

Facebook, Inc.

AR/VR telepresence system development and research integration at Facebook Reality Labs
(C++, C#, OpenGL, Python).

Feb 2018 – Present
Pittsburgh, PA

Principal Engineer

Autodesk, Inc.

Web services development in the ReCap group (Node.js, Python, C++, C#).

Apr 2017 – Jan 2018
Pittsburgh, PA

Senior Software Engineer

Autodesk, Inc.

ReCap desktop development. New features, UI/UX, rendering optimization, cloud integration
(C++, OpenGL, GLSL, Qt).

Sep 2014 – Apr 2017
Pittsburgh, PA

Graduate Assistant in PhD program

Carnegie Mellon University

Research on data-guided computing and applications of machine learning to animation
(C++, Python, OpenGL, Android).

Sep 2013 – Jul 2014
Pittsburgh, PA

Software Engineer

Electronic Arts (EA 2D studio)

Developer on web-based *Dragon Age* titles. Gameplay systems, AI, and graphics (AS3, Java).

Aug 2009 – Apr 2011
Redwood Shores, CA

Software Engineering Intern

Electronic Arts (Maxis studio)

Summer 2008
Emeryville, CA

Software Engineering Intern

Oracle

Summer 2007
Redwood Shores, CA

SKILLS

- Computer graphics, 3D math, interactive applications, game development
- Multithreaded and multi-process applications
- RTC, distributed client/server systems, web APIs
- *Current tools:* C++, C#, Python, OpenGL, Visual Studio
- *Past tools:* Node.js, Qt, MATLAB, GLSL, AS 3.0, Flex, MongoDB
- *Development Platforms:* Windows, Linux, Android

PUBLICATIONS

- B. Humberston and D. K. Pai. *Hands On: Interactive Animation of Precision Manipulation and Contact*. Best Paper award, SCA 2015. Los Angeles, CA.
- M. Stanton, B. Humberston, B. Kase, J. F. O'Brien, K. Fatahalian, A. Treuille. *Self-Refining Games Using Player Analytics*. 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