

BEN HUMBERSTON

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SUMMARY

10+ years of experience delivering powerful software systems in both commercial and research environments. Background spans ML training and inference, desktop apps, VR, RTC protocols, and distributed services. Diverse array of prior work across industry R&D, commercial apps, academia, and video game development. Experience leading teams, defining roadmaps, aligning XFN workstreams, recruiting, and mentoring junior engineers.

EXPERIENCE

Software Engineer 2018 – 2024
Meta Platforms, Inc. (formerly Facebook) Pittsburgh, PA

- Senior engineer in ML R&D lab toward photorealistic "codec avatars" for AR and VR.
- Executed research initiatives in partnership with research scientists, program managers, and Meta infra teams.
- Led software teams for VR telepresence prototypes and large-scale ground truth data capture systems
- Authored 700+ and reviewed 900+ code changes across realtime VR experiences, model training workflows, audio/video data capture systems, call networking, 3D rendering, and remote avatar generation systems.
- Supported 70+ hires by leading more than 300 technical, system design, and behavioral interviews.
- Toolbox included Python, PyTorch, C++, Unity, C#, PHP, and OpenGL.

Principal Engineer 2017 – 2018

Senior Software Engineer 2014 – 2017

Autodesk, Inc. Pittsburgh, PA

- Delivered and optimized features for desktop and web versions of "ReCap" 3D capture processing software.
- Contributed to modules including UI/UX, data management, and 3D rendering.
- Toolbox included C++, Qt, OpenGL, Node.js, Python, and C#.

Graduate Assistant, PhD Program 2013 – 2014

Carnegie Mellon University Pittsburgh, PA

- Research on data-guided computing and applications of machine learning to animation.

Software Engineer 2009 – 2011

Electronic Arts (EA 2D studio) Redwood Shores, CA

- Zero-to-one developer on browser-based Dragon Age MMO for social platforms.
- Delivered new gameplay systems, NPC AI, UI/UX, and graphics optimizations
- Toolbox included Java for game logic backend and Flash/AS3 for frontend client.

EDUCATION

MS, Computer Science 2014

University of British Columbia Vancouver, BC

Thesis: Precision Manipulations Using a Low-Dimensional Haptic Interface

BS, Computer Science 2009

Cornell University Ithaca, NY

TECHNICAL SKILLS

Domains: Machine Learning, Computer Vision, 3D Graphics, UI/UX, Distributed Systems, Networking, RTC

Languages: C++, Python, C#, TypeScript, HTML, PHP

Tools: Git, Mercurial, VS Code, vim, Visual Studio, Unity

Frameworks: PyTorch, Qt, OpenGL, WebRTC

Platforms: Linux, Windows, 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.