Ben Humberston

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Summary

Software engineer with over 10 years of experience delivering solutions in commercial and research organizations. My background includes machine learning R&D, desktop apps, realtime VR experiences, and backend services. I seek opportunities to collaborate across groups, build teams, define and execute roadmaps, and help colleagues grow through mentorship.

Experience

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

- Staff engineer in ML R&D lab toward photorealistic "codec avatars" for AR and VR.
- Led software teams for VR telepresence prototypes and large-scale ground truth data capture systems.
- Developed tools to accelerate research in partnership with scientists, PMs, and Meta infra teams.
- Authored and reviewed 1000+ contributions aross systems for realtime experiences, model training, data capture, call networking, 3D rendering, and avatar generation.
- Supported 70+ hires by leading more than 300 technical, system design, and behavioral interviews.
- Toolbox: Python, PyTorch, C++, Unity, C#, PHP, OpenGL.

Principal Engineer · 2017 – 2018
Senior Software Engineer · 2014 – 2017
Autodesk, Inc. · *Pittsburgh, PA*

- Delivered features for desktop and web versions of "ReCap" 3D capture processing software.
- Implemented new UX flows, optimized 3D rendering, improved cloud data management.
- Toolbox: C++, Qt, OpenGL, Node.js, Python, 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: Java for game logic backend, 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.