

Professional Experience

Senior Programmer • Assassin's Creed VR • Ubisoft • 2/2020 – Present

- o Performance and Optimization team lead of 14 people for a AAA VR game
- o Drive budgets, goals, timelines, and optimization strategies for the project.
- o Advise multi-disciplinary teams on how to best implement their features in order to remain performant while still achieving creative goals
- o Research and implement new tech and optimization algorithms
- o Optimization gains so far - Mesh density up by 50%, GPU costs down by 18%, increased NPCs by 285%, increased dynamic physics objects by 100%

Senior Interaction Engineer • AR • Magic Leap • 4/2016 – 1/2020

- o Shipped the Magic Leap One AR headset and controller
- o Prototyped the entirety of the OS's UI/UX in Unity with designers
- o Championed various hardware and tech for use in ML One, in particular, haptics
- o Designed the paradigms of user interaction for object transformation in AR space using 6DoF
- o Added rendering features to the OS in order to execute designers creative vision
- o Optimized the bootup scene from ~41FPS to 90FPS on GPU
- o Authored and optimized multiple shaders used throughout the operating system
- o Managed asset integration for inhouse and outsourced artists ensuring performant scenes, models, VFX, and shaders

Senior Developer • iPipeline • 9/2015 – 4/2016

- o Debugged various platform, web-service, and IIS issues using C# and a proprietary language

Programmer • Mobile • SeaShells Education Software • 8/2014 – 9/2015

- o Developed an offline speech recognition plugin and API for Unity
- o Used C++ to write plugins for both PocketSphinx and Kaldi ASRs
- o Created reconfigurable event-based gameplay systems driven by speech recognition
- o Worked with content creators to create tools to better preview and import assets
- o Iterated with artist to create the UI using NGUI and later Unity UI
- o Mentored interns, encouraging them to adopt emerging standards in gameplay development

Technical Skills

<i>Coding</i>	C#, C/C++, Java, Python, PHP, SQL, DirectX, HLSL, CG, Kinect, Wii Remote
<i>VR/AR</i>	Quest, Oculus Rift, Magic Leap, Vive, Stem 6DoF
<i>Software</i>	Unity3D, Visual Studio, XCode, Jira
<i>Version Control</i>	Git, Mercurial, Perforce, Gerrit, Swarm
<i>Content Design</i>	Photoshop, After Effects, Maya, 3ds Max FumeFX

Education

Carnegie Mellon University
Masters of Entertainment Technology

Pittsburgh, PA
Dec. 2013

Bloomsburg University
B.S. Computer Science • B.S. Mathematics

Bloomsburg, PA
May 2011