

Professional Experience

Senior Interactive Engineer • TikTok • 4/2022 - Present

- o Graphics profiling tools owner
- o Rendering optimizations: improved render order, PBR shaders 30% faster
- o Implemented the GLTF import pipeline with all rendering extensions
- o Worked with product managers to implement various engine features
- o Created filters used on the TikTok and Douyin Apps

Senior Programmer • Assassin's Creed VR • Ubisoft • 2/2020 - 3/2022

- o Performance and Optimization Team Lead
- o Drive project wide optimization strategies
- o Research and implement new tech and optimization algorithms
- o Advise multi-disciplinary teams on how to best implement their features in order to remain performant while still achieving creative goals
- o Optimization gains: Vertices increased by 50%, GPU down by 2ms, increased AI by 35%, physics costs reduced by 50%

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

- o Created the 6DoF object manipulation, and 2D cursor algorithms for the OS
- o Collaborated with Designers to prototype the entirety of the OS's UI/UX in Unity
- o Prototyped and championed various hardware and tech for use in ML One.
- o Added rendering features and fixed bugs in the Lumin OS renderer
- o Optimized the bootup scene from ~41FPS to 90FPS on GPU
- o Wrote and optimized multiple shaders used throughout the operating system.

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 a multiplatform AI driven offline speech recognition plugin and API for Unity
- o Worked with content creators to create tools to better preview and import assets
- o Architected speech recognition driven gameplay and UI systems

Technical Skills

<i>Coding</i>	C#, C/C++, Java, JavaScript, Python, PHP, SQL, DirectX, OpenGL, Metal
<i>VR/AR</i>	LuminOS, Magic Leap SDK, Vive, Stem 6DoF, Quest
<i>Software</i>	Unity3D, UDK, Visual Studio, XCode, Jira, Effect House
<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