

Francis Ge

COMPUTER GRAPHICS · INTERACTIVE 3D MEDIA

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Summary

Adaptable software engineer with a **passion for creating compelling 3D experiences**. At Meta, I worked on new forms of interactive 3D media, and built out powerful tools for creators on the web, and in Horizon Worlds. Thinking from a user perspective helps me make sure our product focuses on what matters, and ships with a high standard of quality.

Work Authorization: Authorized to work in the United States.

Work Experience

Meta Platforms, Inc.

Seattle, WA

Software Engineer, Horizon Creation Tools Team

June 2021 - June 2022

- Created prototype virtual reality scripting experiences for Horizon Worlds to allow creation of complex, interactive worlds (Unity, C#)

Software Engineer, Computational Photography Team

Nov. 2017 - June 2021

- Designed and built 3D photo effects for Rayban Stories companion app (C++, JS)
- Lead engineer for 3D Photos backend creation algorithm (C++, Python)
- Lead engineer on building support for 360 Photos inside new Facebook.com (WebGL, ReactJS)
- Led team of 4 to design and develop a new interactive Rotating View product photo format for Facebook Marketplace, using consumer iPhone camera and leveraging ARKit's SLAM system to perform fast video stabilization centered on object (C++, Objective-C)
- Keynote Speaker for <3D Photography at Facebook> at LDV Vision Summit by LDV Capital (NYC, May 2019)
- Built and launched 3D Photos product on Facebook for iOS, Android, and Facebook.com, using depth images either captured from consumer smartphone devices or drawn by hand to generate 3D models with novel viewpoints (C++, Python, Obj-c, Java, ReactJS, PHP).
- Researched and prototyped methods for automatic video summarization (Python)

Microsoft Corporation

Redmond, WA

Software Engineer Intern, Microsoft Office Graphics Team

June 2016 - Sep. 2016

- Implemented SVG Filter rendering support and testing for Microsoft Office software suite (C++)

University of Washington, CSE Department

Seattle, WA

Computer Graphics Teaching Assistant

Fall 2015, Sep. 2016 - June 2017

- Received *Bob Bandes Award*, recognizing exceptional performance by students as teaching assistants in the Computer Science department.
- Built new 3D rendering engine for course projects to support modern graphics APIs (OpenGL 4.0), using Qt for powerful cross-platform UI (C++).
- Lectured on supplemental project details (e.g. shaders, graphics pipeline, raytracing), held office hours, graded homework and exams.

SMART Technologies

Seattle, WA

Software Developer Intern

June 2015 - Sep. 2015

- Built and shipped method for existing smart projector software to communicate with new smart whiteboard enterprise hardware solution.

Animation Research Labs at University of Washington

Seattle, WA

Undergraduate Researcher

Jan. 2015 - May. 2015

- Built tooling to analyze performance of facial expression recognition cameras (such as Intel Realsense) on computer animated faces (C#).

Education

University of Washington

Washington, United States

B.S and M.S. in Computer Science

Sep. 2012 - June 2017

- **Relevant Projects:**
 - **Multiplayer Game (Unity C#) and Server (Java):** 3d top-down shooter game with custom networking based off of Valve's Source Engine. Implemented client prediction, server reconciliation, entity interpolation.
 - **HoloChess (HoloLens / Unity C#):** Networked AR chess with 3d animated pieces from imported 360 video capture using custom Unity plugin. Implemented vertex animation with custom HLSL shaders.
- **Relevant Coursework:** Graphics, Operating Systems, Distributed Systems, Networks, Architecture, Embedded Systems, Computer Animation and Production in Maya, Machine Learning, Computer Vision, Augmented Reality Capstone (HoloLens)

Skills

Languages C#, Java, Python, Javascript, C++, GLSL / HLSL, OpenGL, WebGL, HTML5 / CSS, PHP, C, Go, Verilog

Tools Unity 5, Qt, Mercurial, Git, Visual Studio, Android Studio, Maya, Arduino, RenderDoc, Linux