

Zachary Metcalf

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Industry Experience

Riot Games Spr. 2021—Pres.

Software Engineer II

R&D—R&D (Unreal Engine, C++, Go)

- Built a playtest service for rapidly patching, deploying, and managing prototype builds on AWS servers
- Wrote a suite of C++ libraries for creating bespoke prototype tooling applications using ImGui
- Prototyped features including: Wwise footsteps audio, services in Go, and a Slackbot in Python

Blizzard Entertainment

Spr. 2019—Spr. 2021

Software Engineer

Overwatch—Colorful team-based hero shooter with exhilarating competitive 6v6 combat (C++)

- <http://www.playoverwatch.com>
- Produced, designed, and implemented features for the Workshop, a custom game scripting system
- Developed a framework for creating and extending synchronized debug widgets using ImGui
- Optimized asset package loading to support intelligent preloading and accommodate rapid hero swaps

Rockstar San Diego

Sum. 2015—Fall 2018

Engine Programmer

Red Dead Redemption 2—Vast and atmospheric open-world tale of America's unforgiving heartlands (C++)

- <http://www.rockstargames.com/reddeadredemption2/>
- Developed population system to manage streaming, memory, and design requirements of the world
- Integrated proprietary bug tracking system for automated error detection and bug generation by QA
- Added debug tools to visualize and auto-document game data for streaming, memory, and ped systems

USC Advanced Games Project

Spr. 2014—Sum. 2015

Software Engineer

Polyseum—Multiplayer, team-oriented first-person shooter (Unreal Engine & C++)

- <http://www.polyseum.com>
- Setup core game framework and mentored for networked gameplay, movement, and weapons
- Implemented client-side prediction, optimized data replication and RPCs for Azure dedicated servers
- Setup Jenkins CI build configuration for deploying cross-platform builds to perforce

Academic & Teaching Experience

USC Department of Information Technology Program

Fall 2022—Pres.

Adjunct Lecturer

ITP 435—Professional C++

- Applications of advanced concepts in C++ including lambda expressions, templates, secure coding, parallel programming, writing performant code, CMake and continuous integration

USC Department of Information Technology Program

Spr. 2014—Spr. 2015

Undergraduate Teaching Assistant

ITP 165—Intro to C++ Programming

ITP 380—Video Game Programming

ITP 485—Programming Game Engines

University of Southern California

M.S. in Computer Science

Sum. 2015

B.S. in Electrical Engineering

Spr. 2015

B.S. in Business Administration

Fall 2014