Robert Keller

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Education

University of Michigan, Ann Arbor MI — Expected: April 2023
School of Engineering, Computer Science Engineering Undergraduate - GPA: 3.84/4.0

- Winter '21 Courses Include: EECS 483 Compilers, EECS 493 User Interface Design
- Fall '21 Courses Include: EECS 482 Operating Systems, MATH 214 Linear Algebra
- Fall '20 Courses Include: EECS 376 Foundations of Computer Science, Physics 240 E&M
- Winter '20 Courses Included: EECS 281 Data Structures and Algorithms, MATH 215 Multivariable Calculus

Greenhills School, Ann Arbor, MI - Unweighted GPA: 3.9/4.0 — 2015-2019

- FIRST Robotics - Co-Captain; 4 Year Varsity Athlete - Tennis & Soccer; Film Club - Founder/President

Skills

- Proficient in C++, C
- Source Control: Perforce, Git LFS
- Task Management: Jira, Trello, Gitlab Boards
- Tools: Visual Studio, Valgrind, VSCode
- Proficient in Unreal Engine
- Familiar with D3D11 and Unity
- Familiar with C# and Python
- Familiar with WPF, XAML, and MVVM

Projects & Experiences

Lead Programmer — February 2020 - Present
MCubed VR Network Visualization Research(C#, Python, Unity) — Team of 5

- Developed 3D social network visualizations with a team of computer scientists providing Ross Business School with a better tool for analyzing complex networks
- Product goals include network research paper and standalone application to assist others in network analysis

Project Lead/System Architect — July 2021-August 2021
Personal Protective Equipment Detection University of Michigan XR Initiative(C#, WPF)

- Architected multi-threaded layer to interface with Azure Kinect cameras maximizing application responsiveness
- Designed readable UI allowing medical professionals to easily determine if they have correctly applied PPE

Lead Gameplay Programmer and Level Designer — September 2020 - July 2021
ThreePM (working title) - 3D Rhythm Platformer (C++, Unreal) — Team of 2

- Implemented custom movement from the ground up in C++ allowing precise and reliable movement to be synced to a song.
- Designed elaborate levels that have the player fluidly match their movements to the beat of the song
- Developed extensive debugging tools saving hours of developers' time
- Profiled and optimized complex levels doubling performance in certain areas and levels

Level Designer and Gameplay Programmer — January 2021-May 2021
Mogu - 2D Puzzle Platformer (C#, Unity) — Team of 5

- Designed numerous puzzles that explored our unique mechanic increasing player interaction and interest
- Edited and filmed captivating trailer immediately hooking potential players of the game

Gameplay Programmer (WolverineSoft Studio) — 2019-Present
Circuitry, Desolation Place, and IO (C#, Unity) — Team of 15 - 30

- Built 3 full 2D and 3D games from start to finish in Unity with a team of more than 30 other students
- Developed internal scripts that allowed for designers to quickly iterate and implement different designs

DX11& DX12, Graphics Programmer (C++) — 2018-2019

- Interacted with low-level processes and DX11 & DX12 API's developing 3D rendering engines

FIRST Robotics, Lead Programmer and Driver (Java) — 2016-2019

- Developed an object-oriented application using design structure in Java to program industrial-sized robot to compete in the international robotics competition
- Led robotics team to winning district competition and qualifying for the FIRST Robotics Worlds Competition