

**David Erbeling**  
**GitHub:** [github.com/Erbeling](https://github.com/Erbeling)  
**Portfolio:** [erbeling.github.io](http://erbeling.github.io)

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## Skills:

**Languages:** C++, C#, Java, Lua, HTML, CSS, Javascript

**API/Tools:** OpenGL, Direct3D, Unity, MonoGame, Visual Studio, Eclipse, Excel, Windows, Unix/Linux, Git

**Technical:** Debugging, FOSS Development, Design Patterns, AI, Pathing, Data Structures, Algorithms, Compute Shaders

**Misc:** Linear Algebra, Game Design and Balance, UI/UX Design, Prototyping, Playtesting, Experience working in small teams, and on tight schedules.

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## Projects:

### Hatchit, Game Engine (C++ Vulkan): Lead Engineer

Designed graphics API for configurable pipelines using Vulkan

Wrote and tested JSON file specifications for platform agnostic graphics resources

Created systems to efficiently load resources and track asset dependencies

Used SSE2 to write an accelerated math library

### Mineshaft Mayhem, Endless Runner (C++ DX11): Gameplay/Graphics Engineer

Wrote scene and object loading code to import assets from XML files

Integrated Lua scripting into the engine and used it to write most of the game logic

Created shaders for mind bending visual effects with deferred shading

Added gamepad support with SDL2

### Soul Bound, Tactical RPG (Unity): Lead Engineer

Organized and supported other engineering team members

Implemented and tuned character movement and camera controls

Wrote basic editor tools used by level designers

Implemented dynamic Fog-of-War effect in levels with customized shader code

Designed and balanced core combat systems and AI

Created Lua scripting API for dialog, quests, and spells

Created persistent saves to track quests and player progress

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## Education:

**Rochester Institute of Technology**

Game Design and Development BS

Dec 2016

3.86 GPA

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## Employment History:

**Research Assistant (Atlas)**

Aug 2016 – Dec 2016

Wrote C++ and Graphics code demos

Developed front-end for website

**Teaching Assistant (Level Design & 2D Animation)**

Sept 2015 – May 2016

Helped students with lab computers/software

Critiqued and Graded homework assignments and projects