

# Luke Larson

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## Personal Statement

I possess a constant thirst for knowledge and am always seeking to better myself. I love working with others and my positivity and optimism fosters an environment that helps everybody achieve better outcomes. As an engineer I am well rounded and have an innate ability to understand and learn new things quickly. These qualities along with a healthy dose of passion and charisma have helped me maintain continued success in both my personal life and career.

## Projects - Experience

**Co-Founder PiRhoSoft, Inc. (Game and Game Technology Development)** - Since February 2016

### The Art of War

- Commercially released Xbox and PC game created in 6 months for Microsoft's Dream.Build.Play. competition
- Implemented realtime Client/Server network architecture with input prediction and lag compensation
- Wrote an animation system using inverse kinematics for natural arm and leg movement
- Created a custom swept collision system utilizing the separating axis theorem
- Developed innovative AI architecture for platform traversal using navigation graphs and A\*

### Pargon

- Custom built, cross-platform, C++ game framework
- Implemented multiple graphics layers in DirectX11, DirectX12, OpenGL, and Metal
- Developed UI layout and styling system
- Created a serialization engine for strings, objects, and binary implementations

### Unity Composition and Tool Suite

- Designed a modular, extensible, user friendly API and authored design documentation
- Wrote a custom expression parser, lexer, and evaluator for simple runtime scripts
- Developed a system for runtime type erasure in C# and Unity
- Implemented a data binding system for Unity user interfaces
- Utilized CI/CD to automatically build and package each project for consumption

### Photon Phanatics

- Commercially released iOS puzzle game showcasing my creativity and analytical thinking ability

### Maine EMS

- Prototype iOS and Android app created for the state of Maine's EMS protocol reference
- Built using Xamarin and adhering to MVVM architectural pattern
- Parsed and analyzed PDFs to convert to a native and more readable format

## Languages - Tools - Frameworks

C#	■■■■■	HLSL/GLSL	■■■■■	iOS/Objective-C	■■■□□
C++	■■■■■	HTML/CSS/JS	■■■■■	Python	■■■□□

## Education

**University of Washington** • Class of 2012, Seattle, WA

- **Bachelor of Science** in Biochemistry, **Bachelor of Arts** in Public Health

## Other

- Worked as an EMT for Seattle FD and American Medical Response in downtown Seattle for 3+ years
- Created a Wordpress driven website for my significant other's personal blog - designed theme from scratch in PHP, JS, HTML/CSS using Google's Material Design philosophies
- Coached an 11-12 year old junior football team for four years
- Made my first video game in Flash when I was 12 years old and am always working on numerous other personal projects to learn and for my own entertainment