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## KEVIN D. O'MARA

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### EMPLOYMENT

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**Instructional Student Assistant** San Diego State University Fall 2017

3D Game Programming Course

- Help students understand concepts of 3D game programming and the Unity game engine.
- Teach students how and why to use a version control system such as Git.

**Software Engineer, Intern** Amazon Summer 2017

Supply Chain Optimization Technology

- Implemented support ticket categorizer using unsupervised machine learning.
- Integrated categorizer into an existing bot for automation.
- Refactored legacy module to support region-based operations and maintain backwards compatibility.

**Research Assistant** San Diego State University Summer 2015 – Spring 2016

Computational Quantum Mechanics

- Replaced bottlenecking three-dimensional integral with system of linear equations to achieve 3x speedup.
- Validated new algorithm through time profiling and verifying the numerical accuracy and precision.
- Taught scripting and automation to two new research assistants.

### EDUCATION

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**San Diego State University** Fall 2012 – Fall 2017

- M.S. in Computer Science, graduating December 2017. GPA: 3.8
- B.S. in Physics, May 2016. GPA: 3.6
- Graduate Coursework: Advanced 3D Game Programming; Combinatoric Algorithms; Intelligent Systems & Control; Software Engineering; Spatial Databases; Data Mining
- Undergraduate Coursework: Data Structures; Calculus III; Methods of Applied Mathematics II; Classical Mechanics; Modern Optics and Lasers (& Lab)

### TECHNICAL EXPERIENCE

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#### Projects

- [Unity Networking Library](#) (in-progress). Replacement for UNET networked methods. C#, Unity
- [Procedural Cave Generator](#). Tree-based 2d procedural cave generator. C#, Unity
- [Car Racing Game](#). Simple 3d car racing game. Lead programmer of four-person team. C#, Unity
- [Pong/Breakout Hybrid](#). Customizable combination of Pong and Breakout plus powerups. C#, Unity
- [Line-of-Sight Calculator](#). Calculator for precise line-of-sight on a 2d grid. Lua
- [Board Game Expansion](#). Most popular fan-made hero. Collaborated with international peers.
- [Command Line Shooter](#). Command line bullet-hell shooter inspired by Space Invaders. Fortran
- [Board Game Re-Theme](#). High fidelity artwork for re-theming my favorite board game. Photoshop

### ADDITIONAL EXPERIENCE AND AWARDS

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- Honorable Mention in Northrop Grumman Code-A-Thon
- Outstanding Physics Graduate
- Physics Tutor (2015-2016)
- Vice President, Society of Physics Students (2015-2016)

### LANGUAGES AND TECHNOLOGIES

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Proficient

- C#; Visual Studio; Unity; Git

Familiar

- C; Lua; Python; Bash; JSON; XML; Java; Scala; Fortran; Matlab
- IntelliJ; Eclipse; Oracle SQL; Spark; LOVE2D