

# Michael Feldman

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<b>Proficiencies</b>	<b>Programming Languages</b> C++, C#, Haxe, Python, Perl, Cg, HLSL, SQL, Bash, C, Unreal Blueprints, Java, Lua, Ant, Typescript, Javascript, HTML, CSS, XML, YAML, Go, FORTRAN <b>Software</b> Unreal, Unity, Godot, Reddis, DynamoDB, Node.js, Bootstrap, Jenkins, Visual Studio, Rider, VSCode, Vim, WSL, Git, Perforce, Svn, Chrome, Firefox, Jira, Office, Wwise, Sibelius, Audacity, Wireshark, CharlesProxy, RenderDoc, Imagemagick <b>Environments</b> Windows 10/11, Linux, Mac OS X, Xbox One, PS4, Switch, Android, iOS
<b>Professional Experience</b>	<b>Spry Fox, a Netflix Studio</b> Senior Software Engineer Remote 2023-2024 <i>Cozy Grove: Camp Spirit, Untitled Cozy MMO</i> <ul style="list-style-type: none"><li>Adapted a Bootstrap Javascript/HTML item data visualizer for use by game designers in development of a different product</li><li>Converted the item visualizer from Javascript to Typescript for maintainability</li><li>Created a quest data visualizer, allowing designers to manage pacing and rewards</li><li>Led an interdisciplinary optimization strike team to improve mobile device battery life</li><li>Worked with Netflix's automation team to create a C++/Python test framework for mobile Unreal games</li></ul>
	<b>Proletariat, a Blizzard Studio</b> Lead Software Engineer Boston, MA 2022-2023 <i>World of Warcraft: Dragonflight, World of Warcraft: Wrath of the Lich King Classic</i> <ul style="list-style-type: none"><li>Planned, gained approval, staffed, and began an initiative to improve audio workflows and features</li><li>Organized a second initiative to analyse and fix "magic numbers" across 100,000 Lua scripts</li><li>Created a Typescript plugin for VSCode to improve creation of Lua scripts, saving hundreds of hours per year</li><li>Rewrote Proletariat's engineering hiring process to be more inclusive, more equitable, and less stressful</li><li>Ran mock interviews to train interviewers and refine the new hiring process</li><li>Supervised a group of 7 as they fixed bugs and onboarded onto the World of Warcraft team</li><li>Presented the SQL language and relational database concepts to Proletariat's engineering team</li><li>Managed 3 direct reports</li></ul>
	<b>Proletariat, Inc.</b> Senior Software Engineer Boston, MA 2018-2022 <i>Spellbreak</i> <ul style="list-style-type: none"><li>Implemented a variety of tools and features including a persistent cosmetic inventory, a ledger-backed currency system with no known exploits, voice chat using Vivox middleware, a UI menu system, weekly store offers, testable scheduled content, an open source C++/Python Unreal plugin that converts spreadsheets to Unreal assets, colorblindness accessibility options, and a live-tunable competitive player ranking system</li><li>Collaborated with product owners, UI designers, producers, and QA to fit my features into a cohesive product</li><li>Wrote efficient Haxe/Node.js backend code that scaled to 7 million unique users in our first week</li><li>Addressed a preexisting architectural caching issue before it could lead to race conditions and lost user data</li><li>Ramped up on the Go language for contract work on another studio's backend</li><li>Presented best practices for multiprocessor programming, practical language features, and code reviews</li><li>Became an expert on Haxe, Node.js, and Unreal (C++) language intricacies</li><li>Took on a direct report, earning excellent feedback from that engineer and management</li><li>Guided an interdisciplinary group with no previous Unreal editor experience through a series of tutorials</li></ul>
	<b>Turbine, Inc.</b> Software Engineer Needham, MA 2017-2018 <i>Game of Thrones: Conquest</i> <ul style="list-style-type: none"><li>Fixed several C# thread synchronization and race-condition bugs</li><li>Collaborated with multidisciplinary teams to create and polish features that were loved by players</li><li>Added the ability to attach context to log messages, which reduced time spent identifying sources of bugs</li><li>Reviewed other engineers' code for correctness, clarity, efficiency, and maintainability</li></ul>

<b>Professional Experience, Continued</b>	<p><b>The Tap Lab</b> <span style="float: right;">Software Engineer</span> Cambridge, MA <span style="float: right;">2016-2017</span></p> <p style="text-align: center;"><i>WWE Tap Mania, Politicats</i></p> <ul style="list-style-type: none"> <li>• Shipped fixes to bugs with minimal prior knowledge of the codebase within three days of beginning work</li> <li>• Presented Unity and C# knowledge and best practices from previous professional and personal experience</li> <li>• Wrote shaders to emulate Photoshop blend modes, allowing efficient control over palette-swapped environments</li> <li>• Added threaded loading to the Spine animation library</li> <li>• Demonstrated and encouraged the writing of tools for data generation, verification, and ease of editing assets</li> <li>• Implemented artists' UI mockups as responsive, functional, and animated in-game assets</li> <li>• Documented game systems in preparation for another company to continue to provide updates</li> </ul>
	<p><b>GSN Games</b> <span style="float: right;">Software Engineer</span> Boston, MA <span style="float: right;">2014-2016</span></p> <p style="text-align: center;"><i>Sparcade: Tripeaks Solitaire, Sparcade: Tetris Burst, Cosmic Crunch, The Price is Right: Super Plinko, Wheel of Fortune, Catch-21, Solitaire Rush</i></p> <ul style="list-style-type: none"> <li>• Shipped three Javascript/HTML5/Node.js games optimized for mobile devices in five months</li> <li>• Improved maintainability through refactoring code written by an outside contractor</li> <li>• Fixed numerous visual, logic, and security bugs</li> <li>• Created a level editor for <i>Plinko</i> using Box2D physics that encouraged rapid design iteration</li> <li>• Contributed to an open source Javascript preprocessor</li> <li>• Instructed coworkers in Unity engine best practices and C# language features</li> <li>• Implemented an automatic solver for <i>Sparcade: Tripeaks Solitaire</i> in order to classify difficulty of random seeds</li> <li>• Assisted in architecting a server-configurable UI for the <i>Sparcade</i> game launcher</li> </ul>
	<p><b>Harmonix Music Systems</b> <span style="float: right;">Software Engineer</span> Cambridge, MA <span style="float: right;">2010-2013</span></p> <p style="text-align: center;"><i>Canceled Kinect game, Fantasia: Music Evolved, Chroma, Dance Central 3, Rock Band Blitz, Dance Central 2, Rock Band 3, Dance Central</i></p> <ul style="list-style-type: none"> <li>• Automated preview generation to speed the creation of DLC for <i>Rock Band</i> and <i>Dance Central</i> games</li> <li>• Added sound buses and positional audio with custom falloff curves to Harmonix's C++ audio engine</li> <li>• Prototyped combat and locomotion-based challenges for a canceled game</li> <li>• Coded a chase camera that designers and artists could tune and script</li> <li>• Added optional reliable transmission to UDP protocol for a simultaneous multiplayer prototype</li> <li>• Created flocking AI movement by implementing an optimized and expanded version of the Boids algorithm</li> <li>• Replaced some of Harmonix's general purpose visual scripting for audio with Wwise middleware</li> <li>• Instructed audio team on in-engine implementation, allowing them to iterate independently</li> <li>• Integrated Harmonix's sound synthesizer into Unreal 3, Unreal 4, and Unity</li> <li>• Collaborated with a contracted studio remotely to bridge the knowledge gap between programmers and musicians</li> <li>• Triggered various gameplay systems at appropriate musical timings using MIDI's authored by audio designers</li> </ul>
	<p><b>Mythic Entertainment, an EA studio</b> <span style="float: right;">Intern</span> Fairfax, VA <span style="float: right;">2009</span></p> <p style="text-align: center;"><i>Warhammer Online, Dark Age of Camelot</i></p> <ul style="list-style-type: none"> <li>• Fixed bugs in the Java tool used by customer support representatives (CSRs)</li> <li>• Added statistics tracking of CSRs</li> <li>• Allowed CSRs to subscribe to be notified when specified players log on</li> <li>• Implemented an in-game survey used by players to give feedback on their interactions with CSRs</li> </ul>
<b>Personal Projects</b>	<ul style="list-style-type: none"> <li>• Implemented a low-level networked messaging system suitable for a turn-based tactics game</li> <li>• Generated meshes and wrote custom Cg shaders to visualize the movement of 2D units across varying altitudes</li> <li>• Combined A* and Monte Carlo Tree Search to create a compelling AI opponent</li> <li>• Designed, programmed, composed, and performed music for a puzzle game</li> </ul>
<b>Education</b>	<p><b>Brown University</b> <span style="float: right;">Sc. M. (Master of Science) in Computer Science</span> Providence, RI <span style="float: right;">2009-2010</span></p> <p><b>Brown University</b> <span style="float: right;">Sc. B. (Bachelor of Science) in Computer Science</span> Providence, RI <span style="float: right;">2005-2009</span></p>
<b>Interests</b>	Member of saxophone ensemble "Saxyderms," video and board games, jazz, classical, bluegrass, and video game music, model rocketry, skiing, escape rooms