

Finnbarr O'Callahan

Toronto, ON, Canada | U.S. + Canadian Citizen

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*Software engineer, previous lead game engineer and studio co-founder,
interested in applying technology to education, sustainability, and digital rights.*

SKILLS

- **Languages:** C#, Python, SQL, Java, JavaScript/TypeScript, HTML/CSS, C, C++, HLSL, Lua
- **Frameworks/Libraries:** Unity, NumPy, SciPy, Pandas, MongoDB, React, Next.js
- **Tools/Services:** Git, GitHub, AWS (S3, CloudFront, CodePipeline), Azure (PlayFab, Functions), Grafana

EXPERIENCE

- **Independent:** Lead software engineer Oct 2022 - Present
 - Prototyped and co-designed a spell-crafting/logic puzzle game ([demo](#))
 - Ported an open-source prototype written in Lua to Unity and redesigned it as a full game
 - Developed a showcase of level design and state machine/behavior tree enemy AI
- **No Bloat Studios:** Lead software engineer and co-founder Oct 2020 - Oct 2022
 - Architect and lead engineer (frontend/backend/infrastructure) for a cross-platform online game reaching 70k+ users across mobile, desktop, and web with a 95% positive rating ([store page](#))
 - Developed responsive frontend UI and in-game controls for users on desktop and mobile
 - Solo backend developer, implemented account management, payment processing, etc.
 - Populated databases with telemetry and analytics data and wrote queries for BI dashboards
 - Developed a GPU-accelerated 2D lighting system to optimize rendering on web and mobile
 - Reverse-engineered voice chat SDK to add cross-compatibility with the web version of the game
 - Frontend tech: Unity, C#, HLSL, PUN2 networking + voice chat, Azure PlayFab SDKs
 - Backend tech: Azure PlayFab + Functions + Redis cache, C#, AWS S3, Grafana, SQL
 - Web tech: JavaScript, React, Next.js, HTML, CSS, AWS S3 + CloudFront + CodePipeline
- **University of Toronto:** Peer mentor leading events for junior CS students Sept 2019 - Apr 2020
- **University of Toronto:** Lead engineer on automated testing research May 2019 - Sept 2019
- **Sikorsky Aircraft:** Capture manager intern on U.S. and German govt contracts May 2018 - Aug 2018
- **United States Marine Corps:** Officer candidate and honorary squad leader May 2017 - July 2017

EDUCATION

- University of Toronto:** B.S. - Computer Science Major, English Minor Sept 2016 - Apr 2020
- GPA: 3.6
 - Capstone project: Gameplay and AI engineer for a student stealth/action game ([demo](#)) ([code](#))
 - Capstone research: CS education learning outcomes of identifying analogous problems ([paper](#))

VOLUNTEERING

- **Start2Finish:** Fitness and literacy coach for underprivileged children Oct 2016 - Present
- **Toronto Nature Stewards:** City park lead and curriculum designer July 2022 - Present
- **CONC/Bike Brigade:** Shelter kitchen worker and deliverer to the food-insecure July 2022 - Oct 2022
- **UofT Project Include:** Coding instructor for high-school students May 2019 - Aug 2019