Dylan MacDonald

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Key Qualifications

- 2 years professional C++ development experience
- 1 year professional Python experience
- Proficient in Data Structures & Algorithms
- 1 year C# Godot Experience
- 1 year professional networked UE4 experience
- B.Sc. in Computer Science

Education

University of British Columbia, Vancouver, B.C. **May 2024**
Bachelor of Science in Computer Science – GPA: 80%
Relevant coursework – Data Structures, Algorithm Design & Analysis, ML, AI, Relational Databases

Work Experience

Offworld Defence Simulations, Vancouver, B.C. **May 2021 – June 2022**
Junior Software Engineer

- Promoted to full-time Unreal Engine 4 software engineer after an 8-month term as a Co-op
- Leveraged optimized C++ data structures for sub-millisecond replication, enabling support for nearly 100 concurrent players with negligible network overhead
- Converted multiple Blueprint prototypes into networked C++ systems, seamlessly integrating them with the UI through collaboration with the UI team
- Mentored a UI Blueprint developer in C++, facilitating their transition into a C++ UI developer role
- Used CI/CD pipelines and benchmarking to track progress and enhance development efficiency

Intel Corporation, Vancouver, B.C. **Sept 2020 – Apr 2021**
Software Engineer Co-op Student

- Modeled embedded CPU performance on an Optane SSD with C++, influencing architecture decisions to optimize size and power consumption
- Automated benchmark simulations and data retrieval with Python and Bash, reducing developer processing time by 80%
- Designed and developed benchmarking tests in C++ to enhance the accuracy of model simulations

Projects

Bakery Battles | github.com/dmaccs/BakeryBattles **Jan 2025 – Present**

- Developing a 2D roguelike autobattler in Godot with C#, where players configure their kitchen to defeat enemies via strategic choices (combat, shopping, events) and upgrade systems
- Engineered a CSV-based data management system, converting assets to JSON for easy modification and seamless integration into development workflows

Skills: C#, Godot, Git, JSON, Game Design, Pixel Art

Word Hunt Tile Game | github.com/dmaccs/WordHunt **Dec 2024 – Dec 2024**

- Created a 2D word game and UI to find words hidden in a 4x4 grid of letters
- Implemented a trie system to generate, save, and load tries for finding all possible words using DFS

Skills: C#, Godot, UI, Algorithms, Data Structures

Skills

Languages: C++, C#, Python, SQL, Bash
Tools & Technologies: Git, Unreal Engine, Godot, Visual Studio, JetBrains
Other: Object-Oriented Programming, Agile Development, CI/CD, Multiplayer/Networking, Benchmarking