Thomas Horne

343-988-1131, tchorne2@gmail.com, thomashorne.ca

HIGHLIGHTS OF QUALIFICATIONS

- Designed, programmed, and published a commercial game as a solo developer, achieving over 100 units sold and overwhelmingly positive reviews
- Experience in almost every aspect of video game development from 8 years of personal game design projects, both solo and in teams
- Several years of experience as a game master in various TTRPGs
- Excellent Web Development and Database skills acquired through personal projects
- Communication skills gained as a lead designer in game development competitions
- Software development life cycle (SDLC) knowledge and unit testing experience acquired by working at the RCMP
- Programming and automation skills developed through computer science courses
    - Vector and Matrix skills developed in Linear Algebra I and II
    - C++ programming performed in Intro to Software Engineering and Computer Game Design and Development
    - Practice designing algorithms and learning data structures in Abstract Data Types & Algorithms and Discrete Structures II
    - Data management and analysis skills cultivated through statistics courses

SKILLS

Godot 3D and 2D – GLSL – C++ – C – Unity 3D and 2D – Python – Java – Javascript

EDUCATION

Bachelor of Computer Science **September 2022-Present**

Computer Game Development Stream

Carleton University, Ottawa, Ontario

- Third year standing, 11.84/12 (A+)
- Deans' Honour List, Faculty Scholarship
- Expected Graduation Date: April 2027

AVAILABILITY

Available full time for 16 weeks beginning May 2025

WORK EXPERIENCE

Software Developer **May 2024 – Present**

Royal Canadian Mounted Police, Ottawa, ON

- Used machine learning techniques to automate processes, significantly cutting down on labour times
- Wrote automated unit tests and integration tests to drive development of new features

Teaching Assistant (COMP 1805 – Discrete Structures) **January 2024 – March 2024**

Carleton University, Ottawa, ON

- Taught various algorithms and time complexity fundamentals
- Demonstrated how to solve problems step-by-step through weekly tutorials

APPLIED PROJECTS

Public releases available at https://tchorne.itch.io/

Photochemistry **March-June 2024**

Personal commercial project. https://store.steampowered.com/app/2917850/Photochemistry/

Full-length Zachtronics-like factory puzzle game – Self-published on Steam – 100+ units sold

- Utilized Steam's developer API to provide customized leaderboards
- Assembled a team of playtesters to guide the direction of development early on
- Released a full product according to the software development life cycle, including QA testing and continued maintenance

Astroheist **January – March 2024**

University group project. Carleton University, Ottawa, ON https://youtu.be/oo7Zx_QL9Go

Top-down space shoot-em-up – Developed from scratch in C++ using OpenGL

- Incorporated a number of low-level memory management techniques and design patterns
- Designed custom GLSL shaders for sprite-sheet based animation and particle effects

Vanishing Point **February 2024**

Development competition group project. https://ap1506.itch.io/vanishing-point

3D First-person puzzle game – 1st place in the CU 2024 February Game Jam

- Programmed a puzzle mechanic around various objects becoming intangible when outside of the players vision
- Created a full-screen shader to give the game a unique abstract style, making use of both the depth and normal buffers

NikoChat **December 2023**

Personal project. https://github.com/tchorne/NikoChat

Visual-novel style AI-Chatbot

- Utilized an unofficial API for the online chat-bot site Character.Ai
- Developed a front-end Godot application that uses multiple character portraits and sound to express more realistic emotion
- Created a local Python server that handles TCP connections with an external application

Foxfire Games **January 2023-April 2023**

University group project. Carleton University, Ottawa, ON

2.5D Beat-em-up action rogue-like

- Outlined a project document to guide the creation process and emphasize design pillars
- Integrated tools designed by separate team members to work together without error
- Prioritized workload in a task list divided among team members to ensure all necessary elements were completed before the deadline

Picky Packers **March 2023**

University group project. https://tchorne.itch.io/picky-packers

Hyper-casual polymino mobile game

- Iterated the design of the game several times to create a smooth and engaging mobile experience
- Learned to publish games to the Google Play store
- Utilized a Godot plugin to run rewarded video ads, allowing the game to generate revenue