Elliot Colp

Gameplay Programmer

780-660-0470
elliot.colp@gmail.com

elliotcolp.com
github.com/TheLastBanana
linkedin.com/in/elliotcolp

I'm a gameplay programmer who enjoys implementing **elegant solutions** and polishing **game feel**. I love to create things that **make people excited**, whether they're playing my games, using my tools, or working with my code!

Profile & Skills

- Quick learner who enjoys picking up skills to explore new problem spaces.
- A variety of game development experience ranging from mods to indie to AAA.
- An eye for polish: maintainable code, user-friendly tools, and satisfying game feel.

Languages:
C++, C#, C, Python, JavaScript, Java, Cg, Haskell, AS3, Z80, MIPS, Lua

Tools:
Visual Studio, Unreal Engine 4, SpatialOS Perforce, Unity, Git, Frostbite, GCC/GDB, Clang, Linux, Symfony, Vue.js

Work/Volunteer Experience

Improbable Canada — Oct. 2019 – Present
Gameplay Programmer
- Built gameplay systems and tools for an unannounced online RPG (see next page).
- Quickly picked up Unreal Engine 4 (UE4) and delivered a robust, flexible gameplay system in my first two months.
- Extended UE4's built-in automated testing tools to let us verify client/server interactions.

BioWare — Sept. 2017 – Sept. 2019
Gameplay Programmer
- Joined as a Software Engineer I; promoted to Software Engineer II in early 2019.
- Owned several gameplay systems on an unreleased *Dragon Age* game (see next page).
- Helped to coordinate code convergence and gameplay system development across projects.

IBM — Sept. 2015 – Aug. 2016
Compiler Optimization Developer (Intern)
- Acted as a liaison between a professor at the U of A and IBM developers.
- Helped to implement compiler research in a real-world code base.
- Worked on the open-source LLVM compiler project.

University of Alberta — Sept. 2014 – Apr. 2015
Executive Producer (CMPUT 250) — Sept. 2016 – Dec. 2016
- TA position – worked closely with teams of students building games to help them maintain a reasonable project scope.
- Provided feedback on gameplay prototypes and helped to keep teams on schedule.

Education

University of Alberta — Sept. 2012 – Apr. 2017
B. Sc. Specialization in Computing Science; Certificate in Computer Game Development
- 3.9 GPA
- Gold Medal in Computing Science – highest grade in the department for my graduating class

Featured Projects

Unannounced Online RPG 2019 – Present
- Designed and implemented a utility-based **AI** system in **C++** and exposed it to designers through an **easy-to-use** Blueprint interface.
- Based on feedback from both designers and programmers, continuously improved the system's **flexibility** and **efficiency** while **maintaining** its ease of use.
- Tackled complex **networking** problems in UE4 and SpatialOS.

Game Boy Emulator 2018
- Hobby project to learn more about old-school **hardware and software**.
- Implemented basic processor, graphics, input, and ROM loading functionality.

Gemma's Great Gambit 2017
- Built from the ground up using **Unity**/**C#** with a team of 6 for a school course.
- Acted as **sound designer** and **musician**.
- Implemented and polished a number of game mechanics including **collision shape slicing** (detailed in my portfolio).

The Day I Died 2012
- School project with a team of 6, where I acted as lead programmer, lead designer, and sound designer.
- Stealth-action game built through **clever use** of *Neverwinter Nights'* **modding tools**.
- Nominated in all categories and won Game of the Year and Technical Achievement awards at the year-end ceremony.

Drillboid 2011
- Two-person project (myself and an artist) made with **Unity**/**JavaScript** for a contest.
- Implemented **procedural cave generation** and custom **player physics/controls**.
- Placed in the contest's top 10 entries and was featured as a staff pick on Kongregate.

***Dragon Age* (unreleased)** 2017 – 2019
- Designed and implemented a new gameplay system to **reduce code duplication**, increase **flexibility of designer tools**, and **speed up iteration time**.

Messo 2019 – Present
- Mobile puzzle game developed with a small team.
- Created VFX, shaders, animations, and gameplay code to add **polish** and make the **game feel** more satisfying.

Anthem 2017 – 2018
- Miscellaneous bug fixes and improvements to designer-facing debugging tools.

Magnaut 2014 – 2017
- Built an open-source **ECS game engine** from scratch using the SFML media library.
- Implemented continuous 2D **collision detection** and **replay compression** algorithms (detailed in my portfolio).
- Focused on **documentation** and thorough **unit testing**.

***StarCraft* Bot** 2014
- School project with a team of 4.
- Implemented effective strafing-based **combat AI**.
- In a tournament run at the end of the course, ours was the highest-ranked bot for our faction and won an award for the **most stable code**.

Gravity Garden 2010
- Wrote the **game engine** alone in C++ using the SDL media library.
- Designed game mechanics, produced puzzles, created graphics and wrote dialogue.
- Featured in *Domashny PK* magazine and on the *Jay is Games* website.