Simon Ashton

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Education

Simon Fraser University Burnaby, BC

Bachelor of Science in Computer Science – 4.16 GPA *Sept. 2024 – April 2030*

- Competitive programming club (core member).

Competitions

Top Competitive Programmer *Oct. 2022 – Present*

- Candidate Master on Codeforces (top 2.9%).
- 5-Star on CodeChef (top 0.9%).

SFU MASH Programming Contest Winner *March 2025*

- Used Kruskall's algorithm to efficiently find the MST of a trade network in $\mathcal{O}(E \log(E))$.
- Wrote the only correct solution to Dijkstra problem (identified test data flaw post-contest).
- Placed 1st among 20 teams.

DreamHacks Winner *March 2025*

- Simulated n-body force interactions in $\mathcal{O}(n^2)$ from scratch in three.js.
- Collaborated with 3D graphics specialist to produce immersive dream-like visuals.
- Won "First Light Award" (top prize) from 26 teams.

Projects

cp-tool | *Python, GitHub Actions, PyPI* *Aug. 2023 – Jan. 2025*

- Built CLI to automate competitive programming setup, saving 10+ seconds per problem.
- Implemented GitHub Actions pipeline for automatic PyPI releases.

SynthScript | *C++, doctest, GitHub Actions* *Dec. 2023 – Oct. 2024*

- Self-learned programming language design in 2 months.
- Implemented scripting language with recursive descent parser and AST interpreter.
- Unit-tested in 9 development environments with GitHub Actions.

Open Source

Godot Engine Contributor | *C++, doctest* *March 2024 – Sept. 2024*

- Navigated 1M+ LOC codebase to diagnose and fix text editor edge cases.
- Added regression tests covering 7 edge cases to prevent future failures.
- Collaborated with core maintainers to ensure correct implementation.

Technical Skills

Languages: C++, Python (Advanced) — JavaScript (Intermediate)
Systems: Linux (NixOS, Arch), Git, CI/CD (GitHub Actions)
Algorithms: Graph Theory, Dynamic Programming, Network Flows, Optimization