Jas Singh

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Skills

Programming Languages: Golang, C++, Swift, Java, JavaScript, C, OCAML, Haskell, Elixir, Erlang, SQL, Python
Frameworks: Android, Node.js, Express.js, SceneKit, SpriteKit, Unity
Tools: Git, JUnit, Linux Shell Scripting

Game Development Projects

Gouken - 3D Fighting Game (Game Architecture, BCIT) *Jan - Apr 2024*
Tech Lead

- Led team of six developers to make a mobile-performant Street Fighter clone on iOS with Swift and SceneKit
- Architected Entity Component System (ECS) and flow of control for events within the core update loop
- Implemented Environmental Scripting functionalities for easier stage VFX additions
- Added Input Buffering solution to allow for fighting game motion inputs (such as Hadoukens)
- Created dynamic hitbox and hurtbox system tied to animation frame-rate (a necessity for traditional fighting games)

Row - 2.5D PvP Browser Game (BC Global Game Jam) *Jan 2024*
https://tinygodzilla.itch.io/row

- Developed a wacky, two-player physics-based browser game to match the jam's theme of "make me laugh"
- Implemented Bennett Foddy-inspired physics allowing oars with momentum and ragdolling boats
- Created the gameplay loop FSM, alongside losing and winning conditions and game resets
- Expanded physics gameplay to include a stun mechanic with affordances - camera LERPing and freeze frames
- Integrated as a +1 into an already-formed team, adapting to existing dynamics and scheduling constraints

ShadowDancer - 3D Stealth Game (Game Development Fundamentals, BCIT) *Sep - Dec 2023*
Team Lead & Developer

- Collaborated with a team of three on a Thief-like 3D stealth game with light/sound-based detection
- Developed patrolling AI with a light-based detection system using the inverse-square law
- Created a way-point system allowing level designers easier path-tracing for AI
- Implemented first person movement system with jumping, mantling, and moving over slopes

Relevant Work Experience

Calabrio - Data Engine Team *Burnaby, BC*
Haskell Engineer *Aug 2021 - Jan 2023*

- Implemented metrics logging using Actor Model mailboxes emulating Erlang's behaviour
- Provided mentorship and training to interns on functional programming to work on a Haskell code-base
- Learned a sophisticated, already implemented software system and made changes to its data engine layer programmed in Haskell

Fortinet - Release QA Team *Burnaby, BC*
Software Release QA Specialist *Feb - Aug 2021*

- Tasked with debugging the Security Operations Centre (SoC) feature of the FortIAnalyzer
- Wrote bash shell scripts to induce environments and conditions necessary for bug reproduction
- Verified bug-fixes before they were pushed to a production build

Education

British Columbia Institute of Technology *Burnaby, BC*
Bachelors of Science in Applied Computer Science - 94% CGPA *Sep 2023 - Present*
Diploma in Computer Systems Technology - 90% CGPA (w/ honours) *Dec 2020*