

# Aman Shah

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## EDUCATION

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### University of Toronto

HBSc. in Computer Science — GPA: 3.92/4.00

Toronto, ON

Expected 2028

## PROFESSIONAL EXPERIENCE

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### Software Engineering Intern

February 2026 – May 2026

St. Boniface Hospital, Dr. Ashish Shah

Remote

- Built a full-stack web platform educating patients and families about Fontan procedures, research and outcomes.
- Scraped Google Scholar fontan research under Dr.Shah, summarized via LLM, and published with links.
- Worked with staff to conduct usability testing, iterating on UX based on feedback from medical professionals.

### ML Engineering Intern

May 2026 – Aug 2026

HeartWise.ai

Toronto, ON

- Building an image augmentation pipeline to train diagnostic ML models on phone-captured ECG photos, complementing their performance on digital ECG files.
- Reducing physician diagnostic review time by optimizing ECG workflow tooling, freeing clinical time for patient care and procedures.

### 🎮 Indie Game Developer

August 2021 – Present

The Unity Guy

Remote

- Built a commercial FPS solo — custom enemy AI, physics pathfinding, layered combat, and a full open world.
- Designed grid-based procedural generation algorithm producing **100+ unique levels** from a single int seeds.
- Tuned LOD, occlusion culling, and chunk loading to sustain a stable **90 FPS** on mid-range hardware.
- Automated asset placement, prop generation, and collision baking; reduced level design time by **90%**.
- Programmed a **custom A\* 3D pathfinding algorithm** with support for physics interactions.
- Created a behavioural AI system for enemies, allowing for easily customizable enemy behaviours.

### 🎮 Technical Creator

August 2020 – Present

YouTube

Remote

- Created **60+** technical deep-dives, video essays and tutorials about game systems engineering over 5 years.
- Grew brand to **500k+** views and **7.0k+** subscribers.
- Created a discord community with **200+** members sharing their creations and projects.
- Partnered with Brilliant and Meshy, producing co-branded developer content.

## PROJECTS

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### 🎯 Flux - Hackathon Winner | *React, Next.js, TypeScript, Prisma, Cerebras, ElevenLabs*

- **Won 1st place** at the Google Developer Group 2026 Case Competition - built an AI platform that converts study materials into quizzes, flashcards, games, podcasts and smartnotes for neuro-divergent learners.
- Built Cerebras parsing pipeline with **98% accuracy** on 40-page decks and **sub-10s** end-to-end generation latency.
- Designed Prisma async state layer sustaining **15+ concurrent** sessions with zero data races or UI thread blocking.

### 🎯 Tide & Till - Hackathon Winner | *JavaScript, HTML5 Canvas, Node.js*

- **Won 'KnowIdea' track** at the Sandbox Hackathon during Toronto Tech Week.
- Built a cozy pixel-art fishing sim web game with a complete game loop — explore ocean habitats, catch fish of varying rarities, discover recipes, and manage a live in-game economy
- Featured 4 locations, interactive world elements and story-telling, and various mini-games (e.g. fishing, cooking).

### 🎯 Echo | *Python, Gemini Vision, Whisper, Backboard*

- Built a voice-driven screen narrator for blind gamers - works as a third-party overlay across **any** game.
- Created a **6-stage** real-time pipeline (mss → PIL → Gemini Vision → Backboard → Gemini → TTS) in **~7 hrs**.
- Optimized API usage by distributing calls across models, cutting rate-limit hits under Gemini free-tier constraints.
- Shipped with zero UI - all interaction via voice commands, hotkeys, and verbal feedback for full accessibility.

## TECHNICAL SKILLS

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**Languages:** Python, Go, Java, TypeScript, SQL

**Backend:** FastAPI, Node.js, GraphQL, WebSockets, gRPC, PostgreSQL

**Infrastructure:** Docker, Kubernetes, AWS, Redis, Kafka

**Tools & CI:** Git, GitHub Actions, Linux