

Sahaj Chhabra

Software Engineer

Canada | [LinkedIn](#) | [GitHub](#)

Full-stack engineer building AI-powered video and media systems at scale, from thumbnail generation pipelines to verticalization APIs and distributed encoding infrastructure.

EXPERIENCE

Software Engineer Quickplay	Jan 2025 — Sep 2026 Toronto, Ontario, Canada
Built an end-to-end AI thumbnail generation pipeline combining computer vision for frame extraction with LLM-powered captioning for thousands of video assets. Designed and shipped a Verticalization API using YOLO object tracking to convert 16:9 videos to 9:16 vertical shorts at scale for the Pilipinas Live app. Engineered a Golang microservice to automate n8n workflow deployments, eliminating 90% of manual migration work. Architected a distributed HLS encoding system in Go generating adaptive bitrate streams for 20,000+ video assets using multithreading and Pub/Sub messaging.	
Co-Founder & CTO Instagrad	Sep 2024 — Dec 2025 Vancouver, BC
Co-founded an AI startup to streamline photo studio operations and secured a partnership with Vancouver's largest studio, gaining access to 10+ petabytes of image data to train a proprietary on-premise model for AI-generated graduation composites. Built an automated face-matching pipeline that ingests thousands of graduation photos and clusters them into per-student folders using facial recognition, replacing a manual sorting process.	
Software Engineer Intern Quickplay	Jun 2024 — Aug 2024 Toronto, Ontario, Canada
Implemented a GraphQL-to-SQL translation engine with nested query support and batch resolution to eliminate N+1 query overhead. Led testing efforts across multiple microservices with unit and integration tests in Go using table-driven patterns, increasing SonarQube test coverage from 14% to 97%. Collaborated with three cross-functional teams to build an internal tool converting legacy XML metadata files to JSON compatible with any web-based CMS.	
Software Developer Intern BMO	May 2022 — Aug 2022 Toronto, Ontario, Canada

EDUCATION

The University of British Columbia Bachelor's degree in BUCS	Sep 2019 — Jun 2024
GEMS Education International Baccalaureate	Jan 2005 — Jan 2019

PROJECTS

Camera roll cleaning app with Tinder-like interface , Pixitt
Built a camera roll cleaning app using SwiftUI with a Tinder-like interface for deleting duplicate or low-quality photos. Implemented duplicate detection using perceptual hashing and on-device ML with MVVM architecture, asynchronous media loading, and optimized memory management to handle large photo libraries efficiently.
Personal finance tool using LLMs for portfolio analysis , InvestorAI
Built a personal finance tool that uses LLMs to analyze stock portfolios and generate insights based on financial documents and market data. Created embedding pipelines using pgvector for context-aware retrieval with RAG architecture, deployed to Azure Kubernetes Service.
Real-time AI personal trainer with video streaming , Fit@Home
Built an AI personal trainer for nwHacks that streams video over WebRTC to a Python backend using MediaPipe to track 33 body landmarks and calculate joint angles for real-time exercise form validation.

CERTIFICATIONS

AI Fundamentals Certificate , UnlockAI: Learn AI Daily	Sep 2026
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SKILLS

Python (Programming Language) · JavaScript · MySQL · Java · HTML · Cascading Style Sheets (CSS) · Go · Swift · FastAPI · Flask · React · SwiftUI · LangChain · OpenCV · MediaPipe · Docker · Kubernetes · GCP · AWS · Azure · Git · PostgreSQL · n8n · LLMs · RAG · YOLO · Computer Vision · pgvector
