

AKSHAT DODHIYA

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SUMMARY

Software engineer focused on agentic AI and GenAI systems: retrieval-augmented generation, local LLMs (Ollama), tool calling, and dual-engine routing between cloud inference and a local model. Production reliability from an eight-month HOOPP co-op backs that work: a regulated financial data stack, zero-fault-tolerance ETL, 350+ Azure DevOps tickets, and Python automation on Azure DevOps. Ships in Python, TypeScript, and C#/.NET with tests (PyTest, Vitest, Playwright), Docker, and Azure/AWS. Graduated with an Advanced Diploma in Computer Engineering Technology (Co-op) with Honours from Seneca Polytechnic (CGPA 3.9/4.0, President's Honour List x3).

SKILLS

Languages: Python, C#, TypeScript, JavaScript, Java, SQL, C++, Bash, HTML/CSS

Agentic AI / GenAI: RAG, local LLMs (Ollama), dual-engine routing, tool calling, MCP, Hermes, LLM APIs, vector embeddings, DistilBERT WASM / Transformer.js, vision LLM

Backend & Frameworks: .NET, FastAPI, LangChain, REST APIs, Vue.js, Zod, Chrome Extension API (MV3), Pandas, asynchronous/multithreaded programming

Databases & Data: PostgreSQL, MySQL, SQLite, Snowflake, SAP HANA, ETL, NumPy, Matplotlib

Cloud & DevOps: Azure DevOps, AWS (S3, RDS, DynamoDB), Docker, CI/CD, GitHub Actions, Git, Linux, Cloudflare Tunnels, Tailscale

Testing: PyTest, Vitest, unit testing, Playwright

IT & Embedded: Active Directory, TCP/IP, Embedded C/C++, FreeRTOS, ESP32, Microcontrollers

CAD/Hardware (Morph-Deck): SolidWorks, Blender, 3D print, custom PCB

Certifications: Microsoft Azure Fundamentals (AZ-900)

EXPERIENCE

Systems Developer Intern

Sept. 2024 – Apr. 2025

Healthcare of Ontario Pension Plan (HOOPP) – Investment Solutions Group

Toronto, ON

- Owned production reliability for a regulated financial data stack (Snowflake, SAP HANA, SAP Data Services, QlikSense). Resolved 350+ Azure DevOps tickets over 8 months, including out-of-hours failures, service checks, deploying new solutions, and log-driven root-cause debugging.
- Built a Python + Pandas + SQL audit tool that queried SAP HANA, cross-checked deltas via the Atlassian API, and flagged undocumented schema mutations into Excel. Cut a 3.5-hour manual audit to 15 minutes (93% faster).
- Engineered zero-fault-tolerance ETL automation in Automic UC4 for sensitive investment data across Snowflake, SAP HANA, and SAP Data Services.
- Migrated a legacy UC4 software-expiry reminder job to a Python script on Azure DevOps, reducing operational toil on a Linux/cloud toolchain.
- Automated quarterly access reviews and onboarding support by matching live application permissions to expected user lists and flagging gaps for auditors under least privilege.

PROJECTS

ZeroContext: Local-First DLP Chrome Extension

June 2026 – Present

TypeScript, Chrome Extension API (MV3), DistilBERT WASM, GitHub Actions

[Chrome Web Store](#) | [GitHub](#)

- Built a 3-layer client-side redaction pipeline (AST code lexer, deterministic Luhn/regex validators, and a local DistilBERT WASM model) so PII is stripped before prompts reach cloud LLMs, without added latency.
- Implemented dual-channel two-way unredaction: intercept capture-phase native copy events via TreeWalker and override programmatic copy buttons in the main execution world to restore original data from an ephemeral per-tab vault.
- Shipped via GitHub Actions. Optimized Manifest V3 memory with null-origin cache delegation and zero-copy ArrayBuffer streaming; predictive warm-up and idle teardown reclaim ~500MB RAM.

Agentic Job ETL Engine

May 2026 – June 2026

Python, Ollama, GenAI APIs, Pydantic, SQLite, Docker, uv

[Dev.to](#) | [GitHub](#)

- Designed an automated PDF/web ingestion pipeline with dual-engine LLM routing: high-speed cloud inference via Gemini with automatic failover to a local qwen2.5:7b Ollama instance on rate limits.
- Integrated Pydantic data contracts to enforce deterministic, database-ready JSON schemas from unstructured PDFs and web pages, stripping web artifacts for reliable SQLite ingestion.
- Packaged the service with Docker Compose and uv for dependency resolution, using host bind mounts for files and isolated volumes for model weights and DB state. Covered the design in a public write-up.

ChatWithPDF: Self-Hosted GenAI Document Analyzer

Python, LangChain, Gemini API, Streamlit, Docker, Cloudflare

[GitHub](#)

- Built a local Retrieval-Augmented Generation (RAG) app with Streamlit and LangChain that processes documents, chunks text, and stores local vector embeddings for semantic search so answers stay tied to source text and reduce LLM hallucinations.
- Containerized it as a Docker microservice and ran it on a home server behind Cloudflare Tunnels on a custom domain.

Homelab: Agent Hosting and Receipt Tracker

Linux, Cloudflare Tunnels, Tailscale (WireGuard mesh), Hermes, Telegram / iMessage, vision LLM, Splitwise API

- Set up a home Linux server and published selected services through Cloudflare Tunnels for remote access without opening inbound ports on the home network.
- Used Tailscale as a WireGuard mesh so the server and my devices stay reachable from anywhere over the internet on a private overlay.
- Hosted Hermes as an agent runtime on that server and connected messaging clients (Telegram and iMessage) as the main interface.
- Built a receipt workflow: photo in → parse restaurant, items, and spend → store history so later questions (past visits, what I liked) can be answered from that data.
- Integrated Splitwise so a receipt photo plus friend names can create and split the expense without using the Splitwise UI.

Morph-Deck: Presence-Aware IoT Console

C++, FreeRTOS, ESP32, BLE HID, HTML/CSS/JS, SolidWorks, Blender

[Demo](#)

- Designed end-to-end firmware and product hardware: ESP32 C++ firmware with BLE HID (pairs as Windows Input), FreeRTOS mutexes and async task queues for the web server, keystrokes, and sensors without input lag. Technical-report project (TPJ 655).
- Shipped a flash-hosted HTML/CSS/JS web console at morph-deck.local (local Wi-Fi AP then station) with Home / Wellness / Screen / Device / Shortcuts views so users remap multi-layer macros (Auto-Grid LCD keymap), sync GIFs/text to the LCD, and update configs live without desktop drivers.
- Integrated HLK-LD2410C mmWave presence sensing with a configurable delay to auto-lock the PC when the desk is vacated (no webcam).
- Owned CAD and fabrication: SolidWorks + Blender enclosure, 3D-printed case, custom PCB, 3x4 mechanical keypad with RGB underglow, servo-tilted 2-inch LCD (SG90), analog joystick, clickable rotary encoder (volume / scroll / zoom), and haptic vibration feedback; USB-C powered.

EDUCATION

Computer Engineering Technology (Co-op) with Honours, Advanced Diploma

May 2023 – Apr. 2026

Seneca Polytechnic

Toronto, ON

- CGPA: 3.9 / 4.0 · President's Honour List - 3 times
- Certification: Microsoft Azure Fundamentals (AZ-900)
- Capstone-style technical report: Morph-Deck (TPJ 655) covering embedded firmware, BLE HID, and presence-aware IoT product design.