

Sidhant Yadav

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TECHNICAL SKILLS

Languages: C++, C, Python, JavaScript, TypeScript, HTML, CSS, SQL

Backend & Frameworks: Node.js, Express.js, React, Next.js, FastAPI, PostgreSQL, Prisma, Tailwind CSS, Vite, Clerk Authentication, Microsoft SSO, REST APIs

DevOps & Tools: AWS (S3), Docker, Vercel, Git, GitHub Actions, Linux, Postman, SharePoint, Sage 300 ERP

AI & Data Engineering: LangChain, ChromaDB, Pandas, NLTK (VADER), Retrieval-Augmented Generation (RAG), Vector Databases, ETL Pipelines, Prompt Engineering, Claude API

Hardware & Embedded: Arduino, FPGA, Verilog, Quartus, Altium, LTspice, MATLAB

WORK EXPERIENCE

SOFTWARE ENGINEERING INTERN (Mercury Mortgages)

Sept 2026 - Jan 2027

- Engineered a production accounts-payable platform with **Next.js**, **TypeScript**, **FastAPI**, and **PostgreSQL**, automating invoice intake, vendor verification, and multi-level approvals across multiple corporations with role-based access and **Microsoft SSO**.
- Built an AI document-extraction pipeline on the Claude API that auto-fills invoice fields and GL codes from PDFs and scanned images, with a per-vendor feedback loop that learns from user corrections.
- Integrated the **Sage 300 ERP** API to auto-sync each corporation's chart of accounts, replacing manual GL code entry.
- Developed automated lease PDF generation, amortization schedules, and SharePoint document sync for an internal real-estate portfolio app using **Next.js** and **Prisma**.

SOFTWARE ENGINEER (ModivaStudios)

Jan 2026 - Apr 2026

- Built a full-stack AI video generation platform using **React**, **Vite**, **Node.js**, and **Express**, delivering a production-grade web app from scratch for a startup in the **Google Accelerator**.
- Integrated Google Veo through a custom **REST API** to power prompt-to-video generation.
- Developed responsive UI components with **Tailwind CSS**, custom animations, and mobile-first layouts.
- Added **Clerk authentication** and worked across a multi-branch **Git** release workflow.
- Led end-to-end UI/UX design, building interactive prototypes, design systems, ambient glow effects, and micro-animations.

PROJECTS

FINANCIAL NEWS ETL & DASHBOARD

- Built a production-grade ETL pipeline with **Prefect** to automatically pull daily financial news from global REST APIs.
- Transformed raw JSON data with **Pandas** and ran real-time sentiment analysis on market headlines using **NLTK (VADER)**, producing clean, analysis-ready records.
- Designed a relational database schema with **SQLAlchemy** and containerized the backend with **Docker** for portable, cloud-agnostic deployment.
- Developed a full-stack analytics dashboard using **Next.js / React** with a glassmorphism UI, displaying live sentiment trends and macroeconomic insights pulled directly from the database.

ENTERPRISE DOCUMENT INTELLIGENCE SYSTEM (RAG PIPELINE)

- Engineered a full-stack **Retrieval-Augmented Generation (RAG)** application that instantly processes large-scale PDF documents, transforming unstructured text into an interactive knowledge base.
- Architected a high-performance vector search engine using **LangChain** and **ChromaDB**, achieving lightning-fast, sub-second query responses across hundreds of pages of dense documentation.
- Developed an intuitive, real-time chat interface using **Streamlit** that delivers highly accurate, citation-backed answers, completely eliminating AI hallucinations and ensuring 100% data reliability for end users.

EMBEDDED TRAFFIC CONTROL SYSTEM

- Engineered an automated, real-time traffic intersection controller in **C++**, implementing Finite State Machine (FSM) architectures and deterministic timing algorithms to optimize logic flow.
- Architected custom hardware prototypes utilizing transistors, **Integrated Circuits (ICs)**, and breadboards to bridge the gap between microcontroller software and physical electromechanical systems.
- Integrated hardware-software interfaces utilizing Pulse Width Modulation (PWM), digital/analog I/O, and low-level logic controls to process real-time sensor telemetry and drive sequential outputs.

EDUCATION

The University of Waterloo

Bachelor of Applied Science, Majoring in Computer Engineering

Waterloo, ON

2025- 2030