Kunal Sachdev

437-663-6032 | Email | Portfolio | LinkedIn | GitHub | Certifications

Education

University of Waterloo — Sep. 2023 – Present
Bachelor of Computer Science, Minors in Statistics and Economics — *Waterloo, ON*

Technical Skills

Languages/Cloud: Python, Go, JavaScript, C++, AWS, Azure, IBM Cloud, SQL, HTML/CSS
Web Development: React, Flask, SQLAlchemy, Next.js, Express.js, Node.js, Django
Databases: MySQL, SQLite, MongoDB, Db2, Oracle
Tools/Deployment: Git, Docker, OpenShift, Kubernetes, Crossplane, Linux, bash, GDB, Confluence
ML/AI: Pandas, NumPy, Scikit-learn, PyTorch, TensorRT, Seldon, Streamlit, LangChain, BeautifulSoup, Matplotlib, Plotly

Open Source Code Contributions: databricks/cli (*#4379*), NVIDIA-NeMo/Curator (*#2057*, *#1376*, *#1390*), Matrix.org (*#8*)

Experience

Full Stack Software Developer - Cloud and ML Co-op — January - April 2026
Nokia Canada — *Kanata, ON*

- Developed autonomous applications based on the OODA control loop for next-gen telecom networks, focusing on UPF congestion and network slice management to approach an **L5** autonomous network.
- Architected custom operators with **Go**, **Kubernetes**, Kafka, and **MongoDB**, exposing **RESTful APIs** for intent ingestion, lifecycle management, and cloud runtime orchestration to enable intent-based networking and MLOps.
- Developed a Crossplane-based edge cloud automation solution, cutting deployment time by over **95%** from **2 hours to under 5 minutes**, resulting in reduced infrastructure costs and eliminating **100%** of human errors.

Data Scientist Co-op - Full-Stack AI Software Development — Sept 2025 – Present
Ontario Lottery and Gaming Corporation — *Toronto, ON*

- Built a conversational AI platform using **React**, Node.js, **FastAPI**, and Azure **CosmosDB**, integrating OpenAI, Jira, and Microsoft Graph **APIs**, cutting new business request onboarding time by **65%**.
- Deployed a multimodal RAG chatbot with LangChain and Azure AI Search to query insights from business documents, saving **215+** hours/month for business teams.
- Fine-tuned an XGBoost classifier on **115M+** records using Databricks, Hadoop, and PySpark for segmentation with **86%** accurancy, enabling targeted ad campaigns to increase customer engagement.

GenAI Engineer Intern — May 2025 – August 2025
Edelweiss Life Insurance — *Mumbai, India*

GenAI-powered Business Insights with Visualization

- Built a serverless RAG app on AWS Bedrock enabling real-time conversational access to AWS Data Lake, replacing **200+** static BI dashboards and saving **Rs. 300,000+** annually.
- Fine-tuned CodeLlama-7B-Instruct using QLoRA; deployed to AWS SageMaker with TensorRT-LLM, accelerating inference by **1.8x** and cutting memory usage by **50%**.
- Engineered Lambda functions for query validation, Redshift schema extraction, and LLM inference; achieved **99%** API uptime and reduced **8,700+** annual emails per user.
- Enhanced SQL generation accuracy by **28%** using Cohere embeddings + OpenSearch retrieval, supporting **1.5K+** daily active users via real-time Streamlit UI.

Projects

Car Dealership App | *Architecture, Python, Node.js, Express, MongoDB, Flask, Django, React, Kubernetes* |

- Architected a full-stack microservices app with a **React** frontend, and **3** services: **Django** + **SQLite** backend, reviews REST APIs with **Express.js** + **MongoDB**, and a sentiment analyzer on IBM Cloud; CI/CD with GitHub, & deployment on **Kubernetes**.

E-Commerce Plant Nursery | React, Redux Toolkit, Vite |

- Built a responsive e-commerce plant nursery web application using **React**, **Redux Toolkit**, and **Vite**, leveraging React Hooks (**useState**, **useSelector**, **useDispatch**) for global state management, dynamic product listings, and state-driven UI transitions.

Biquadris | *UML Diagram, C++, XWindows, Git, Cygwin, Bash, Linux, GNU, GCC, GDB* |

- Implemented a two-player Tetris-style game in **C++** using modular **OOP**, applying **Factory** and **Observer** design patterns to support **6+** blocks, **3+** levels, **3** special actions, and real-time text/graphical rendering via XWindows.