Krish Kochar

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Education

University of Waterloo Sep 2022 - Apr 2027
Bachelor of Computer Science (AI Specialization) *GPA: 3.95 / 4*

Experience

Super.com May 2025 - Present
Software Engineering Intern

- Engineered a low-latency **Python/FastAPI** backend for the new Flights product, with **sub-150ms** latency per call
- Automated the refund dispute workflow, reducing manual handling time by **70%** using an **async webhook API**
- Built an order-level fraud check in the payments API using a 3rd-party vendor, cutting fraudulent bookings by **22%**
- Discovered & resolved **5+** major bugs as **on-call production lead**, lowering mean time to resolution by **50%**
- Crafted **React** components using **TypeScript** for unauthenticated website flows and improved page load speed by **25%**

OTTO Motors by Rockwell Automation Jan 2025 - Apr 2025
Software Developer Co-op (Fleet Core)

- Developed an AMR fleet interoperability system with **C++**, **Python** & **ROS2** to improve coordination for **500+** robots
- Migrated network architecture from CycloneDDS to Zenoh, leading to **25%** lower latency & **30%** higher data throughput
- Replaced polling with an event-driven **ROS2** topic for real-time robot tracking, reducing CPU usage by **20%**
- Tuned **Kubernetes** container images & **Helm** charts to improve dynamic configuration, boosting deployment flexibility

Ford Motor Company May 2024 - Aug 2024
Platform Software Developer Intern

- Deployed a **C++** Vision Compute Service for an OS using **OpenVX/OpenCV**, processing real-time sensor data
- Boosted functional test coverage to **80%** by integrating gcov reporting into **Jenkins** CI pipelines
- Automated release header validation & code-size analysis with **Python** scripts, cutting firmware image size by **20%**

Publicis Sapient May 2023 - Aug 2023
Software Engineering Intern

- Built **Go** & **JavaScript** REST APIs for **300+** DAU in an employee management portal, improving endpoint throughput
- Designed a **microservice** backend with **GraphQL** integration, achieving **30%** faster data retrieval

Research

University of Waterloo & Vector Institute Sep 2024 - Dec 2024
Part-Time Research Assistant, Prof. Xi He

- Automated & tuned a **ClavaDDPM Diffusion** pipeline in **Python**, generating a **900k-record** synthetic table with **<10%** KL-divergence from the original data
- Created & benchmarked DOMIAS black-box **Membership Inference Attacks** against synthetic datasets

Projects

RaIInet | *C++, Xlib, UML* Nov 2023 - Dec 2023

- Collaboratively designed a 2 player **C++ board game** inspired by Stratego, using the **MVC** Architecture
- Applied **Object-Oriented Programming (OOP)** principles & **SOLID** principles for code modularity & scalability
- Crafted an aesthetically pleasing graphics display leveraging the **X11** Library with a fast **200ms** rendering time

Finvest Advisor | *Python, Streamlit, Pandas, NumPy* Sep 2023 - Oct 2023

- Launched a **Python web app** that uses **100+** mock financial records to predict profitable investment options
- Achieved a Precision@3 of **90%** by creating & deploying recommendation algorithms utilizing **Cosine Similarity**

Real-Time Chat App | *Rust, Websockets, React* Apr 2025 - May 2025

- Developed an async **Rust** WebSocket server using Tokio, with **<20ms** latency with capacity for **50+** concurrent users
- Implemented a **React** client with real-time presence & message history, sustaining **100%** uptime in stress tests

Technical Skills

Languages: Python, C++, C, Rust, SQL, Go, TypeScript, JavaScript, Bash
Tools: Docker, Kubernetes, Helm, Redis, Snowflake, Git, Jenkins, SonarQube, GTest, GCP, QNX, Nix, Datadog, Amplitude
Frameworks & Libraries: ROS2, FastAPI, React, Node.js, OpenCV/OpenVX, Pandas, NumPy, Scikit-Learn, TensorFlow