Krish Kochar

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Education

University of Waterloo Sep 2022 – Apr 2027
Candidate for Bachelor's of Computer Science (Hons.), Co-op *GPA: 3.94*

Experience

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

- Developed a Vision Compute Service in **C++** for the FNV4 **OS**, leveraging **OpenVX** and **OpenCV** for image processing
- Created unit & functional tests using **GTest** & **Python**, increasing code coverage on **Sonarqube** to over **94%**
- Achieved a **100%** test success rate by diagnosing and fixing a critical service termination defect using **GDB** & **Valgrind**
- Increased functional test coverage to **80%** by integrating gcda file packaging with **Jenkins** pipelines using **gcov**
- Automated release header validation and code size analysis using **Python** scripts, reducing package size by **20%**

Publicis Sapient May 2023 - Aug 2023
Software Engineering Intern

- Engineered **RESTful APIs** using **Go** & **Javascript** to power an employee management feature that handles **300+** users
- Enhanced client satisfaction by **20%** by resolving **10+** critical bugs using thorough debugging and testing
- Collaborated to design **microservice-based architectures** for a backend system, boosting performance by **25%**
- Integrated **GraphQL APIs** with **Hasura** for efficient data fetching and enhanced scalability for **100+** users

Extracurriculars

WAT.ai Design Team Oct 2023 - May 2023
Core Member - Building Power Prediction

- Trained **ML models** with **Python** to predict building energy usage with an **85%** success rate, fostering sustainability
- Optimized the models using a large dataset of **500+ households**, collected over an extended period to enhance accuracy
- Performed **Exploratory Data Analysis (EDA)** in **Jupyter** to identify key factors driving building energy use

Projects

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

- Collaboratively designed and developed a two-player **C++ board game** inspired by Stratego
- Applied **Object-Oriented Programming (OOP)** principles and **Design Patterns** for optimal code modularity
- Crafted an aesthetically pleasing graphics display leveraging the **X11 Library** with a fast **200ms** rendering time
- Employed the **MVC Architecture** and **SOLID principles** to ensure a scalable and maintainable codebase

The Used-Book Store | *Node.js, Express.js, React, MongoDB* Jan 2023 - Present

- Innovated a **MERN stack** platform enabling the seamless exchange of used books among **20+** university students
- Established **RESTful API** endpoints in **Express.js**, managing a **MongoDB** database with data for **50+** books
- Fashioned a secure user authentication using **JWT**, **HTTP cookies**, and **Bcrypt** for password hashing
- Implemented a responsive front-end using **React**, enhancing user experience and with intuitive navigation

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

- Launched a **Python web app** that uses mock financial data to predict profitable investment options
- Deployed **ML Algorithms**, like Cosine Similarity, to analyze data and make predictions with a **90% accuracy**
- Created anomaly detection algorithms, reducing false positives by **20%** and improving overall precision

Technical Skills

Languages: C++, C, Python, Bash, Javascript, Go, R, Typescript, SQL, Java
Frameworks: React, Node.js, Express.js, MongoDB, Next.js, Bootstrap, TailwindCSS, GTest
Tools: Git, Docker, Jenkins, Kubernetes, Selenium, gcov, QEMU, QNX, Conan, CMake
Libraries: Pandas, NumPy, Matplotlib, Scikit-Learn, Seaborn, OpenCV, OpenVX, Xlib, Boost