

Raghav Vasudeva

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EDUCATION

University of Waterloo

Bachelor of Computer Science (Honours), AI Specialization

Waterloo, ON

April 2027 (Expected)

Scholarships: Nortel Institute Scholarship, VHA Head Start Scholarship (x2), President's Scholarship of Distinction

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Ruby, JavaScript, HTML/CSS, Scala, TypeScript, SQL

AI/ML: Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, TensorFlow, Langchain, PyTorch, Pinecone, NLP, RAG

Tools: Git, Linux, Bash, GraphQL, Jira, MySQL, PostgreSQL, Oracle, AWS, Docker, Flask, Cypress, JDBC, Kubernetes

EXPERIENCE

Software Engineer Intern

Shopify Inc.

Toronto, ON

January 2025 - April 2025

- Prototyped and developed a conversational Shop Mini app, *Gift Guide*, with TypeScript and React Native
- Introduced cart item properties to the Liquid Template Language API as part of Nested Lines incorporation
- Solved bugs with **10000+** cumulative events in Code Red Effort, including ActiveRecord issues and race conditions

Machine Learning Engineer and Researcher

WAT.ai

Waterloo, ON

September 2024 - Present

- Developing a reinforcement learning model to optimize stock portfolios using Variational Inference, DeepAR, PPO
- Achieved **70%** cumulative annualized returns with the Temporal Portfolio Graph, up from 43% from the S&P 500
- Nominated by the team to present the project at the CUCAI Conference 2025, and submitted [research paper](#).

AI Researcher

University of Waterloo

Waterloo, ON

September 2024 - Present

- Developing models to identify & filter out distractors to improve reliability of content generated by RAG systems
- Individually visualized RAG answers for **100+** queries with **K-Means**, and integrated all visualizations with React

Software Developer Intern

Bell Canada

Toronto, ON

January - April 2024 & September - December 2024

- Reduced costs by **\$100,000** annually by developing an Application Load Analysis software using **Python**
- Updated an open-source package to incorporate **Locust** with **Selenium**, reducing manual input by almost **100%**
- Increased user monitoring efficiency by **80%** with a Python system for daily EC2 log checks using JSON and S3
- Improved connectivity tracking by **65%** with Linux and Batch scripts enabling mass IP and port monitoring

Product Engineer & QA Intern

Baselane

Toronto, ON

May 2023 - August 2023

- Developed **40+** automated testing units with Cypress in **TypeScript** for transactions and banking services
- Improved testing efficiency by **90%** by anchoring Postman and GraphQL to test requests/responses from **Stripe**
- Queried the **PostgreSQL** database to modify app states, aiding in agile development and testing

PROJECTS

Banking Software Interface | [GitHub](#)

- Programmed a seamless banking experience to create/maintain accounts, and deposit, withdraw, and transfer funds
- Implemented the webapp with **Java Servlet** and an HTML Client, hosted with the Apache Tomcat Server
- Monitored user activity status and implemented session timeout with HTTP Session and Servlet Context calls
- Established **JDBC DB** connection and used SQL queries to perform **CRUD** on transaction data in **Oracle DB**

MedIQ | [GitHub](#)

- Enabled users to engage in medical discussions via a chatbot created with **Langchain** leveraging the **Llama 2** LLM
- Increased retrieval efficiency with **Pinecone** Vector DB to store vector embeddings generated from **HuggingFace**
- Developed an engaging user interface with a **Python Flask** application using Bootstrap UI, HTML and CSS