

# Nicholas (Nicky) Khorasani

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## EDUCATION

### Columbia University

M.S. in Computer Science

New York, NY

Exp Dec 2025

### University of Waterloo

B.S. in Computer Engineering, Dean's Honours List, GPA: 4.0 (91.64%)

Waterloo, CA

Jun 2024

## PROFESSIONAL EXPERIENCE

### Google

Software Engineer (Co-op)

Seattle, Washington

May 2025 – Aug 2025

- Engineered and prototyped a high-performance multi-threaded system for Valkey's save and load operations, achieving a 10× speedup to improve data persistence and recovery.
- Improved availability and reliability for Google Cloud Memorystore and other cloud services (e.g., Amazon ElastiCache) that rely on Valkey by contributing performance enhancements back to the open-source community.

### Waabi

Machine Learning Researcher (Co-op)

Toronto, Canada

Sep 2023 – Dec 2023

- Reduced self-driving data labeling time by 98% by delivering a hyper-efficient data pipeline with Rust, PyTorch, and AWS.
- Delivered a custom visualization tool to inspect labeling pipelines using Python, Numpy, and OpenCv2.
- Developed custom metrics to evaluate the performance of data labeling pipelines and coded a map-reduce program with AWS Batch to collect them, enabling rapid pipeline improvements.

### ether.fi

Full Stack Web3 Developer (Co-op)

George Town, Cayman Islands

Jan 2023 – Apr 2023

- Designed ether.fi's [custom elliptic curve cryptography encryption scheme](#) (ECIES) and Validator Key Transfer Protocol that now secures \$5+ billion staked Ethereum.
- Architected and shipped the [etherfi-desktop](#) app for Mac, Windows, and Ubuntu, leveraging a TypeScript + Electron/Python backend, React/ChakraUI frontend and an electron-builder/Github-Actions build pipeline.
- Led a cross-functional team to integrate Solidity smart contracts, Next.js web app and AWS infrastructure, contributing to a successful \$5.3M seed round.

### Nuvalence

Platform Software Engineer (Co-op)

Troy, New York

May 2022 – Aug 2022

- Initiated, coded and deployed a tool to gather, analyze and visualize microservice endpoint performance metrics with Bash, Electron and React.
- Improved performance of 10+ key microservice endpoints by up to 91% using the custom tool.
- Advocated for the tool's adoption which became the team's standard for performance benchmarking

### Ford

Android Software Engineer (Co-op)

Waterloo, Canada

Sep 2021 – Dec 2021

Software Engineer (Co-op)

Jan 2021 – Apr 2021

Test-Automation Developer (Co-op)

May 2020 – Aug 2020

- Improved image load times by 95% by implementing a custom Kotlin/SQLite cache for iPhone UI artifacts.
- Developed SYNC4 music/phone control for CarPlay & Android Auto using a C++ backend and JavaScript frontend.
- Implemented object detection with Python and OpenCV to enhance the test suite and automate 400+ SYNC4 test cases.

## PROJECTS

### Analysis of Sentiment and Gender Bias in News Media Instagram Posts

Mar 2024 – Dec 2024

- Built scalable web-scraping infrastructure and collected 150k+ Instagram posts from news accounts (e.g., @bbc, @cnn).
- Fine-tuned a ViT model to count men and women in images and a RoBERTa-base model to analyze caption sentiment.
- Developed Next.js web-app to display "advanced gender portrayal metrics".

### Non-Invasive Soil Moisture Detection Using a Millimeter-Wave Sensor

Jul 2023 – Mar 2024

- Designed an embedded system using a TI-AWR1642 automotive radar to predict soil moisture.
- Trained a high-accuracy classifier to predict Volume Water Content (VWC) using millimeter wave data from TI-AWR1642.

### Real Time Operating System Kernel

Jan 2022 – Apr 2022

- Designed, programmed and tested a custom RTOS Kernel in C on an Intel DE1-SoC board.
- Implemented dynamic memory management, task management, and a mailbox for inter-task communication and I/O.