

# Ritesh Ahlawat

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## EXPERIENCE

### Software Engineer

June 2024 – Present

*Athelas*

*Mountain View, CA*

- Infrastructure.

### Software Engineer

Mar 2023 – June 2024

*BlueCat*

*Toronto, ON*

- Created an internal tool using **Python** that anonymizes customer databases for testing ensuring customer data remains private.
- Implemented a DDNS **update distribution service** to the core **Java** product and **REST APIs**, enhancing system reliability by efficiently distributing updates across a cluster of DNS/DHCP servers.
- Implemented **PostgreSQL database triggers** to automate table partition creation, mitigating excess database growth.

### Machine Learning Research Assistant

Sep 2021 – Apr 2022

*Toronto Metropolitan University*

*Toronto, ON*

- Created a **novel attention-based ML model** using Python to classify gigapixel cancer pathology slides, **achieving 96.39% accuracy**.
- Submitted the research paper for publication at the **ImNO conference** supporting further research.

### Software Engineer Intern

Jan 2021 – Aug 2021

*BlueCat*

*Toronto, ON*

- Implemented TLS encryption for all data sent between production servers preventing man-in-the-middle attacks.
- **Reduced tech debt by 15%** and contributed to **25+ selenium tests**, resulting in the **most bug fixes for an intern** in a release cycle.

### Software Developer Intern

Aug 2020 – Dec 2020

*Ministry of Transportation*

*St. Catharines, ON*

- Developed and presented several deep learning models in **TensorFlow** and **PyTorch** for vehicle tracking and lane detection on government highways, leading to **\$1M investment in the technology**.
- Improved **real-time performance by 775%** with **TensorRT** allowing for real-time classification on 4 streams.

### Research Assistant

Sep 2020 – Apr 2021

*Toronto Metropolitan University*

*Toronto, ON*

- Implemented and tested various deep-learning speech recognition algorithms in **Python** and **TensorFlow** for single-switch users increasing accessibility for those with disabilities.
- Created a POC **Android application** in **Java** and presented it successfully to stakeholders leading to further development of the technology.

## PROJECTS

**Thia** | *Python, React, TypeScript, Flask, Electron.js, SQLite, MongoDB, Prisma*

Dec 2021 – Sep 2022

- Created a desktop-native AutoML application which uses user's GPUs to train models, saving users **\$300**.
- **Architected a multi-tier system** comprising of a React-based front-end UI, a Flask ML server, a Node and MongoDB back-end, and CircleCI for CI/CD.
- Integrated OAuth with **payment APIs via Stripe**, and **quota APIs** for efficient usage management and controlled user access.

## TECHNICAL SKILLS

**Languages:** Python, Java, TypeScript, JavaScript, C++, Rust, HTML/CSS, C, MATLAB

**Frameworks & Libraries:** React.js, Node.js, TensorFlow, PyTorch, gRPC, Flask, NumPy, Pandas, Django, Selenium

**Databases:** PostgreSQL, MySQL, MongoDB, Prometheus, Redis, GraphQL, Prisma

**Developer Tools:** Git, Docker, Kubernetes, CircleCI, Postman, GCP, AWS, VS Code, PyCharm, IntelliJ

## EDUCATION

### Computer Science Honors (B.Sc.)

*Toronto Metropolitan University*

*Toronto, ON*