



# Ilia Romanov

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 Iliaromanov

 ilia-romanov

**Languages:** Python, Go, C++, JavaScript, Java

**Tools/Frameworks:** AWS (Lambda, EC2, CloudFront, S3), React, Docker, SQL, Git

## Education

**University of Waterloo**, Bachelor of Computer Science (BCS) | GPA: 91% Sep 2020–Apr 2023

- **Key Courses:** Algorithms, Data Structures, Object Oriented Programming (C++), Operating Systems (C/C++), Databases (SQL), Machine Learning (Python, NumPy, Scikit-Learn), Computer Networks (Java, Docker)

## Experience

**Software Engineer Intern** | Capital One Toronto | May–Aug 2023

- Identified and resolved vulnerability in **Go + AWS Lambda** backend, ensuring data security for **20,000** daily users
- Led fraud detection software onboarding onto **AWS** based **React** app for forecasted **\$300k** annual savings, executing project planning, inter-team communications, and development
- Productionized and tested new **React** component fields, contributing to projected **25k** annual account growth

**CG Pipeline Developer Intern** | SideFX Software Toronto | Sep–Dec 2022

- Built tool for automated virtual environment creation using **Python** to streamline machine learning workflows
- Implemented grouping functionality in pipeline task distribution tool using **C++** and thread-safe **data structures**
- Wrote interconnected **Python** and **C++** modules using PyQt to display grouped task info in a desktop app GUI
- Debugged **PyTorch** GAN model and associated data pipeline to simulate terrain erosion with **>90% accuracy**

**Backend Developer Intern** | eSentire Inc Waterloo | Jan–Apr 2022

- Implemented concurrent self-invocations in **Python** based **AWS Lambda**, raising computation speed by **400%**
- Migrated two large scale **Python Flask** REST APIs receiving **500+** daily requests to serverless **AWS** infrastructure, including **RDS** and **DynamoDB** database components, and Terraform infrastructure as code
- Ensured **>95% unit test coverage** across several **Python** backend APIs and SDKs using **PyTest**

**Software Developer Intern** | Opta Intel Toronto | May–Aug 2021

- Built a **convolutional neural network** model using **Keras** to classify report pages with **>90% prediction accuracy**
- Made **Python Flask + JavaScript** based web app to automate image processing using the CNN model
- Parsed **>1.5 billion** rows of raw text data into structured data with **94% accuracy** using NLP with **Python** and **SQL**

## Projects

**IliaBot – Resume Chatbot**  

Python, Flask, FastAPI, JavaScript, AWS (EC2, Lambda), TensorFlow, Keras

- Built a **Keras neural network** model and chatbot web app for a unique way to provide info about my resume
- Used **Python + Flask** for model serving backend and built separate microservice with **Python + FastAPI** for NLP
- Deployed the main web app to **AWS EC2** and the **REST API** to **AWS Lambda** with **API Gateway**

**Accessible Computer Controller** 

Python, OpenCV, Mediapipe, Google Speech-to-text API

- Created computer vision based alternative to a physical mouse and keyboard, enabling control of computer requiring only single hand gestures for full mouse control and use of voice for typing