

# Rayyan Aamir

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## Education

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**University of Toronto Mississauga, ON, Canada** Sep 2022 – May 2027  
(Expected)  
*BS in Computer Science and Mathematics + PEY Co-op*

- GPA: 3.5/4.0
- **Coursework:** Software Engineering, System Programming, Databases, Data Structures, Algorithm Design/Analysis, Computational Theory, Intro to AI/ML, Discrete Math, Abstract Algebra, Reading courses

## Technical Skills

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**Languages:** Python, Java, C/C++, JavaScript, HTML/CSS, SQL  
**Developer Tools:** Git, Bash, PostgreSQL, L<sup>A</sup>T<sub>E</sub>X, Vercel  
**Frameworks:** Next, React, FastAPI, PyTorch, TensorFlow, Keras, Scikit-Learn  
**Libraries:** Hugging Face, NumPy, Pandas, OpenCV, Matplotlib, Albumentations, Ultralytics

## Experience

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**Data Science Intern** Woodbury, NY, USA  
*Clever Devices* June 2024 – Aug 2024

- Researched a way for public transit vehicles to approximate their position/speed where GPS is unreliable
- **Transfer-learned** a PyTorch YOLOv8 model on an augmented dataset to achieve **mAP50 of 99.4%**
- The models robustly detected positional landmarks **despite visual noise of high-traffic areas**

**Tutor** Mississauga, ON, Canada  
*Tutorax* May 2023 – Dec 2024

- Personalized education in University-level Calculus and Discrete Math, **improving grades to 80%**

## Projects

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**SpeakWrite** [🔗](#) 2025

- A **web-hosted conversational AI text-editing platform**, enhancing productivity by carrying out text-editing commands from natural speech in real time, with speech transcription, tones, PDF/mp3 integration.
- **Led a group of 7, facilitating Agile Methodologies** to implement a **microservice architecture**.
- Fine-tuned Mistral, LLaMa, Gemini models to **obey text-editing instructions from natural language**
- Built with FastAPI, WebSockets, PostgreSQL, Hugging Face, PyTorch, OpenAI, Google Vertex AI, Vercel

**TinyProof** [🔗](#) 2025

- Open-source replication of Google DeepMind's Formal Theorem Prover, AlphaProof, to assist students in build foundational theorem-proving skills
- **Researched, implemented RMaxTS** with fine-tuned LLM with Lean4 verification to generate valid proofs
- Paired with a Lean4 IDE that also serves as a benchmarking site for RL-trained models
- Built with PyTorch, Hugging Face, GPT-2, FastAPI, Lean4, Abstract Syntax Trees, GCP

**AwrahConcealer** 2024

- **Render custom clothing templates** (in progress) onto people in an OpenCV video stream
- Discern body parts, orientation, and distance by **pairing YOLOv8 with MediaPipe Pose Estimation**

**DoubleURizz (Hack The North 2023)** 2023

- AI-powered Conversation simulator using Speech-to-Text, DeepFace Sentiment Analysis, Flask backend