

NICHOLAS SAROIU

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EDUCATION

- 2022-2026 **Honours Bachelor of Science**, Computer Science Major, Mathematics Minor (*ASIP Co-op*)
University of Toronto, Faculty of Arts and Science, Toronto, Canada
Relevant Coursework: Software Design; Data Structures and Analysis; Algorithm Design, Analysis & Complexity; Introduction to Databases; Introduction to Machine Learning; Neural Networks and Deep Learning; Operating Systems.

WORK/VOLUNTEER EXPERIENCE

- MAY 2025 **QA Tester / Jr. AI Software Engineer**
— PRESENT *Dibbly Inc.*, Oakville, Ontario
Implementing comprehensive test coverage for existing codebase using Jest and Pytest automated testing frameworks. Contributing to development of full-stack AI applications within an agile team of ten developers using React.js, Next.js, and Python. Writing unit, integration, and end-to-end tests to ensure code quality and system reliability across multiple enterprise client applications.
- JUNE 2024 **Frontend Developer**
— OCT 2024 Toronto, Ontario
Built interactive real-time dashboard for residential battery systems displaying performance metrics and energy analytics. Developed responsive React.js components with Chart.js data visualization to help homeowners optimize energy consumption. Collaborated with independent development team to deliver production-ready application with mobile-responsive design.
- JAN 2024 **TrackOne Project Developer**
— AUG 2024 *University of Toronto Web Dev Club*, Toronto, Ontario
Developed comprehensive information portal for UofT TrackOne Engineering program. Built full-stack application using React.js frontend and Express.js backend. Led frontend development in team of five, implementing user authentication, course planning tools, and resource management system with CI/CD deployment.

PROJECTS

- NOV 2024 **Models to Predict Student Accuracy**
Built three machine learning models (K-Nearest Neighbors, Item-Response Theory, and Autoencoder Neural Network) to predict student performance. Implemented data preprocessing pipeline and ensemble methods to achieve 70% validation accuracy. Utilized PyTorch for neural networks and scikit-learn for traditional ML algorithms with cross-validation optimization.
- MAY 2024 **Patient Portal Backend**
Developed secure REST API for dental patient management system using Django REST framework and PostgreSQL. Implemented JWT authentication, data encryption for HIPAA compliance, and comprehensive CRUD operations. Created API documentation with Swagger.
- NOV 2023 **TTC Tracker**
<https://github.com/nsaroiu/TTC-Tracker>
Built real-time web application tracking Toronto TTC vehicles across 20+ routes with arrival predictions. Developed React.js frontend with interactive maps and Java Spring Boot backend integrating TTC's GTFS data feed.

PROGRAMMING SKILLS

Python, Java, C, Javascript, Typescript, SQL, React.js, Next.js, Spring Boot, Django, PyTorch, NumPy, HTML/CSS, Docker, Git, LaTeX, MIPS Assembly