Aarya Shah

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EXPERIENCE

University of Toronto Machine Intelligence Student Team...
Finance Director   *Jul 2025 - Present, Toronto, CA*

- Implemented policies to ensure compliance and risk management.
- Oversaw organizational budgeting and financial operations for the university's machine intelligence team, managing funding from university grants, sponsorships, and internal revenue.
- Planned and executed the development of scalable financial infrastructure, including automated tracking systems for expense reporting, budget forecasting, and reimbursements.

University of Toronto...
Undergraduate Researcher   *May 2025 - Aug 2025, Toronto, CA*

- Led a collaborative research project on photothermal water purification using wood biochar monoliths (WBMs), advancing sustainable, solar-powered water treatment technologies.
- Developed hands-on expertise in experimental design, materials characterization, and data analysis.
- Presented findings at the UNERD Undergraduate Research Conference, honing scientific communication skills, and winning the Best Podium Award in Chemical and Materials Engineering.

University of Toronto Aerospace Team...........................
Liquid Propulsion Member   *Sep 2025 - Present, Toronto, CA*

- Conducted material cost optimization and sustainability analyses by evaluating nitrogen-fixing alternatives through simulation-based assessments, adhering to aerospace safety standards.
- Collaborated cross-functionally with avionics and structures to ensure system-level integration of propulsion components.

Conscious JA..
Co Founder and Finance Officer   *Sep 2023 - Aug 2024 , Toronto, CA*

- Budgeted and allocated funds to departments to achieve company goals using Microsoft Office 365.
- Oversaw and delegated the companys financial duties.
- Generated over $2000 in net profit, establishing a 254% ROI, surpassing our break-even goal by 176 units, and donating 5% profits to Miles Ahead, and formed partnerships with local shops.
- Represented Conscious in award interviews, helping to win Company of the Year, the CSR award and Best Advertisement Awards.

Parks Canada...
Compliance Student   *Sep 2023 - Aug 2024 , Toronto, CA*

- Collected, organized and assessed data to propose advancements
- Collaborated with a team to conduct active foot and vehicle patrols to ensure park safety regulations were followed, enhancing interpersonal skills.
- Developed document writing and incident reporting skills.

ABOUT ME

Curious and Innovative Engineering Science student at the University of Toronto, passionate about solving global challenges through interdisciplinary thinking.

SKILLS

Tools: Python, C/C++, HTML, CSS, JavaScript, Linux (Red Hat), Docker, Kubernetes, Oracle, AutoCAD, Ansys, Matlab, LaTeX, RISC-V Assembly, SystemVerilog, SQL, R, Pytorch, Tensorflow, UI/UX design, FPGA, Cyber Security, Raspberry Pi

Soft Skills: Leadership, Collaboration, Critical Thinking, Adaptability, Innovation, Financial Management, Problem Solving, Project Management, Communication, Time Management

EDUCATION

University of Toronto   Toronto, CA
Bachelor of Applied Science + Engineering - Engineering Science, Minor in Engineering Business

Courses: People Management and Organizational Behaviour, Digital and Computer Systems, Vector Calculus, Praxis I-III, Data Structures and Algorithms, ODEs, Deep Learning, Electromagnetism

ACHIEVEMENTS

- French Concours D'art Oratoire
- Principal's Leadership Award
- Academic Achievement Award
- UofT National Book Award
- Accounting Applications and Financial Business Case Study Winner

LANGUAGES

- English (Native)
- Hindi (Native)
- Gujarati (Native)
- French (Professional)

PROJECTS

GreenCare Systems
Co-Lead   *Jan 2025, Toronto, CA*

- Collaborated with a team to co-develop a website that aims to optimize healthcare delivery systems using drone technology within hospitals.
- Implemented Dijkstra and RRT algorithms to simulate self-navigation and modern traffic systems in a hospital setting
- Gained skills in mathematical modelling, web design and development, problem-solving, and undertaking SWOT and competitor analysis to analyze value among stakeholders and the market.
- Won 2nd place for best programming idea in healthcare.

Cadence AI
Full Stack Developer   *Jan 2025, Toronto, CA*

- Developed a full-stack web application that translates song lyrics across languages with real-time karaoke functionality.
- Built and integrated backend systems using Node.js (Express) and Python (FastAPI) for audio processing and AI model communication, with Boson AI audio recognition and Language Learning Models (LLM).
- Designed frontend-backend integration between React (Vite/Tailwind) and API endpoints, for audio separation, translation, and real-time lyric synchronization features.

Comparing Neural ODEs and Numerical Analysis to Stochastic Differential Equations in Predicting Future Tumor Volumes in Patients with Glioblastoma
Co-Author   *Sept 2025 - Dec 2025, Toronto, ON*

- Conducted literature review and research on mathematical modelling applications in oncology to develop a research proposal.
- Applied theoretical ordinary and stochastic differential equations to develop and train a neural ODE using Lumiere dataset segmentation that can predict tumor volume in patients based on methylation and their Markov state transitions.
- Attended weekly meetings with advisors to track project progress, and wrote a final report to present findings.

Corti-call Smartwatch Biosensor
Team Lead   *Jun 2025, Toronto, CA*

- Researched and designed a bio sensing smartwatch and app for cortisol monitoring among Addison patients using electrochemical analysis and AI-based recommendations

COMMUNITIES

- JA Canada Youth Advisory (Sept 2025 -)
- Engineering Science Education Conference (Jun 2025 -)
- Engineering Science Ambassador (May 2025 -)
- NSight Mentorship Program (2024 - 2025)
- Oshawa Youth Council (2020 - 2024)
- City of Oshawa Event Volunteer (2021 - 2024)