Sheraz Arshad

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Education

McMaster University — Hamilton, ON
Bachelor of Science in Mathematics and Statistics, Minor in Physics — *Expected Apr. 2026*

DeGroote School of Business — Hamilton, ON
Coursework toward Bachelor of Commerce — *Sep. 2020 – Apr. 2022*

Experience

VectorVitalityFit — Brampton, ON
Founder & Data Scientist — *Dec. 2025 – Present*

- Authored a research paper on "Occlusion Mathematics" applying multivariable calculus and fluid dynamics to model blood-flow restriction training.
- Selected as a Semi-Finalist in Amazon's 10,000 AIdeas Competition; developed proprietary statistical methodologies to generate customized hypertrophy programs.

Cyra — Brampton, ON
Backend Engineering Lead — *Feb. 2026 – Present*

- Developed the backend architecture for an early-stage EdTech MVP using PostgreSQL, supporting concurrent user sessions and sub-second data retrieval.
- Designed REST APIs to streamline content delivery pipelines, optimizing data flow between the AWS server and frontend interfaces prior to beta launch.

Snapbrillia — San Francisco, CA
Blockchain Software Developer — *May. 2022 – Apr. 2023*

- Led development of 5+ Cardano smart contracts using Haskell and Plutus, processing 10,000+ transactions with 99.9% uptime and zero security flaws.
- Improved team productivity 15% by creating 10+ reusable React and Plutus components, reducing development time by one to two days each.

Projects

Project Resonance (MakeUofT 2026) | *Hardware Integration, Microcontrollers* — Feb. 2026

- Prototyped a biometric wearable utilizing accelerometers and gyroscopes to process live heart-rate variability, translating physiological signals into localized haptic physical responses.

Hack the Market (CIBC Capital Markets) | *Python, Gemini 2.0, Quant Finance* — Jan. 2026

- Built a sentiment arbitrage strategy using Gemini 2.0 Flash to extract quantifiable trading signals from unstructured financial news across tech mega-caps (AAPL, MSFT, TSLA).
- Conducted grid-search hyperparameter tuning on a custom vectorized backtesting engine, developing execution logic that eliminated look-ahead bias and achieved a 4.20 Sharpe Ratio.

PathFinder AI (Hackville 2026) | *Python, FastAPI, Computer Vision* — Jan. 2026

- Architected a high-throughput backend using Python and FastAPI to process real-time camera perception and natural language commands, delivering low-latency navigation for the visually impaired.
- Integrated multimodal LLMs and computer vision modules to translate continuous spatial data into actionable, voice-first routing instructions.

3D RF Paul Trap (HardHaQ 2025 / IonQ) | *COMSOL, Quantum Hardware* — Jan. 2025

- Secured a Top 5 placement among 50+ teams at Canada's first Quantum Hardware Hackathon by engineering and optimizing a 3D RF Paul trap for quantum computing applications.
- Quantified performance gains by simulating electrode geometry and RF/DC voltages in COMSOL Multiphysics, maximizing trap depth while minimizing power consumption.

Technical Skills

Languages: Python, SQL, Haskell, C/C++ (Microcontrollers)
Frameworks & Software: FastAPI, Pandas, NumPy, OpenCV, MediaPipe, Docker, COMSOL Multiphysics
Developer Tools & Cloud: Google Vertex AI, Gemini API, AWS, PostgreSQL, REST APIs, Git
Domains: Quantitative Backtesting, Computer Vision, Quantum Hardware, Applied Physics & Calculus