Rajeev Persaud

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Professional Summary

Motivated Honours Physics student at the University of Waterloo with strong analytical, computational, and problem-solving skills. Interested in condensed matter and low-temperature physics, with hands-on experience in Python-based data analysis, simulation, and experimental design. Eager to contribute to research exploring quantum materials and superconductivity

Education

University of Waterloo — Waterloo, ON
Candidate for Bachelor Of Science in Honours Physics — *Expected 2029*

Projects

Math & Physics Education Tool | *mathandmatter.com* — April 2025 – Present

- Attracted over 15,000 monthly users by creating clear breakdowns of complex physics and math topics
- Used Obsidian and LaTeX to turn advanced concepts into visual and digestible lessons for new learners
- Maintained a structured knowledge base of 500+ concepts, reducing friction in learning complex topic
- Produced tangible impact over 30+ countries through organic search & traffic

AI Exoplanet Classification Model | *React, 3JS, Next.JS, Python* — Sept 2025 - Sept 2025

- Built an accurate AI model to classify exoplanets for the 2025 NASA Space Apps Challenge, completing the project within competition deadlines
- Analyzed NASA datasets to train a machine learning achieving 80% accuracy in identifying planets
- Used Python, TensorFlow, and scikit-learn to design and train the model, iterating through multiple architectures to improve prediction precision

Spring Fling Competition | *Python* — May 2024 - June 2024

- Designed and built a spring launching device to predict projectile motion using ideal cases of Hooks Law
- Calibrated launch parameters to reduce launch error to 4%, achieving 2nd place among 40+ teams.

Mini-Rocket Competition | *Python* — May 2023 - May 2023

- Designed and experimented creating an mini-rocket from scratch to maximize height after launch
- Matched predicted and experimented launch data by 3%, leading to first-place among 10+ teams

Volunteer Experience

Rocketry - Payload Division — Sept 2025 – Present
E7 - Rocketry Bay — *University of Waterloo, ON*

- Designed PCB components for fibre optic gyroscope for on-board telemetry and launch-day operations
- Collaborated across avionics, propulsion, and recovery teams to integrate sensor data and ensure system compatibility
- Managed initial predicted parameters for angular spin and flight stability using simulated test data

Math & Physics Tutor — Sept 2025 – Present
Physics Tutorial Centre — *University of Waterloo, ON*

- Communicated effective explanations to aid 10+ students daily to deepen their understanding of concepts
- Adapted to students needs by explaining concepts either graphically or analytically in courses relating to Linear Algebra, Calculus & Classical Physics

Certifications

- Workplace Hazardous Materials Information System (WHMIS) Certification — University of Waterloo
- Cryogenics Safety Training — University of Waterloo Department of Physics
- Compressed Gas Safety Certification — University of Waterloo
- Engineering Machine Shop Safety Training — University of Waterloo Faculty of Engineering

Skills

Soft Skills: Analytical, collaboration, adaptability, initiative, perseverance, receptiveness to feedback
Lab skills: Error analysis, curve fitting and regression, uncertainty analysis, experience with oscilloscopes
Technical Languages: Python, LaTeX, Typset, JavaScript, CSS, HTML
Libraries & Frameworks: Numpy, Sympy, Pandas, React, Tailwind, 3JS, Next.JS
Developer Tools: TensorFlow, sckit-learn, Git