Rishi Nair

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EDUCATION

University of Toronto Schools **Toronto, Canada**
High School Diploma *September 2017 – present*

Relevent Course Work: AP Computer Science Principles, AP Computer Science A, AP Calculus, AP Physics 1, AP Physics 2, AP Economics, AP Biology, AP Chemistry, AP Statistics
Clubs: Math Society, Physics Club, Duke of Edinburgh Club

PUBLICATION

- R. Nair, An Introduction to Knot Theory, *Crux Mathematicorum*, Canadian Mathematical Society, Vol. 48, No.4, 2022, pp. 199-207. https://cms.math.ca/publications/crux/issue/?volume=48&issue=4

EXPERIENCE

University of Toronto Schools **Toronto, Canada**
Executive Committee, Physics Club *September 2021 – present*

- Tutored junior students for AP exams and physics contests.
- Responsible for outreach activities of the club.
- In charge of website development and maintenance.

University of Toronto Schools **Toronto, Canada**
Executive Committee, Math Society *September 2022 – present*

- Pod leader responsible for tutoring a group of junior students for math contests.

University of Toronto **Toronto, Canada**
Math Academy Summer Program, Department of Mathematics *August 2022*

- Accepted into a summer program on graph theory based on performance on a problem set.
- Learned about Eulerian circuits, tree graphs, bipartile graphs, and graph colourings.
- Currently preparing a series of lecture notes/blog articles on graph theory and its applications.

University of Toronto **Toronto, Canada**
Math Mentorship Program, Department of Mathematics *January 2022 – May 2022*

- Reviewed the literature on elliptical-curve cryptography and group theory.
- Biweekly meetings with my mentor to discuss concepts learned.
- Gave a short 10 minute presentation to other mentors and mentees in the program on the basic principles of elliptical-curve cryptography.

University of Toronto **Toronto, Canada**
Math Academy Summer Program, Department of Mathematics *June 2021*

- Accepted into a summer program on knot theory based on performance on a problem set.
- Topics covered included Reidmeister movements, basic topology, knot invariants, knot polynomials and multidimensional knots.
- Wrote an expository article on knot theory aimed at high school and college students (published in Crux Mathematicorum, a journal of the Canadian Mathematical Society).

qBraid **Toronto, Canada**
Quantum Computing Course *June 2021 - August 2021*

- Learned about the basics of quantum mechanics, linear algebra and classic computing.
- Introduced to concepts such as qubits, quantum gates, and programming quantum algorithms.
- Learned about some interesting phenomena in quantum computing such as superposition, interference and entanglement.

University of Toronto **Toronto, Canada**
Global Engineering Challenge, Faculty of Applied Science and Engineering *August 2021*

- Gained practical experience in data visualization using Python packages such as Matplotlib, Seaborn, Folium and Pandas.
- Learned about dataframes, data cleaning and visualization of geographical data.
- Worked on a group project involving the visualization and extraction of statistics from data on the 2019 wildfires in the state of New York.

Music Youtube Channel **Toronto, Canada**
`https://www.youtube.com/channel/UCPyfFCjcz2fWpirlrTIhRDg` *August 2020 – present*

- Recorded, mixed and mastered audio in Logic Pro.
- Recorded and edited videos in Final Cut Pro.
- Played guitar covers and composed original music tracks.
- Attracted over 13.6k views.

SKILLS

Programming Languages	Python, Java, JavaScript, C++
Software	LaTeX, Final Cut Pro, Logic Pro, Adobe Illustrator, Adobe Photoshop, Google Suite

AWARDS AND ACHIEVEMENTS

- Winner of the 2021 MathemAttic article contest organized by the Canadian Mathematical Society.
- Honor roll on the 2022 Canadian National Math League.
- AP scholar with Distinction (2022).
- Honor roll on the 2021 American Mathematics Competitions (AMC) 10A contest.
- Scored a 5 on the AP Computer Science Principles and AP Physics 1 exam.
- Honor roll on the 2020 Pascal Contest organized by the Center of Education in Mathematics and Computing at the University of Waterloo.
- National Champion in the 2019 Fryer Contest organized by the Center of Education in Mathematics and Computing at the University of Waterloo.
- Awarded certificate of distinction in the 2019 Canadian Intermediate Mathematics Contest (CIMC) organized by the Center of Education in Mathematics and Computing at the University of Waterloo.

COMMUNITY SERVICE

- Event assistant, David Dunlap Observatory, 2022.
- Volunteer, Fall Open House, Richmond Hill Centre for the Performing Arts, 2022.
- Volunteer, Daily Food Bank, 2017–Present.
- Food drive organizer, Daily Bread Food Bank, 2021.
- Action project participant, Conservation Youth Corps, 2021–2022.