

RITVIK AGGARWAL

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SKILLS

- Android Development
- IOS Development
- Java
- React Native
- Game Development
- UI/UX Design
- HTML
- JavaScript
- Python
- CSS

PROJECTS

- Research paper on Large Language Model, My research paper focused on improving the retrieval-augmented generation (RAG) system in order to enhance the accuracy of information retrieved by generating responses. The model filters out irrelevant information at a more detailed, chunk level, rather than the traditional document-based systems. This approach leads to more accurate results, which is especially useful for tasks such as fact-checking and complex reasoning. The method also introduces new techniques like relevance scoring, query rewriting, and redundancy removal to further improve performance. Accepted to prestigious conferences such as NAACL SRW '25 & SoCal NLP Symposium '24.
- Worked on a research paper related to the field of computer science: To what extent can the accuracy of linear regression and decision tree models be optimized to facilitate the predictive analysis of housing prices through parameter tuning, bias-variance assessment and handling data imbalance? Accredited by the IBO organization, and received a grade of A (highest possible achievement).
- This project is very close to my heart: I developed an Android newspaper app designed for elderly users, focusing on accessibility features such as extremely accessible navigation and speclized text for supported reading. The project applied user-centered design principles and received a 7/7, the highest possible grade, in IB MYP Digital Design.
- Planned Tech Week for my school, Planned Tech Week for over 600+ students from 5 grades.

EXPERIENCE

Tech Skills Empowerment Project 08/2023 to Current

- Conducted training sessions for teachers at Sai Bal Sansaar on effective technology use in education.
- Maintained equipment and tools to ensure optimal functionality and safety standards.
- Conducted routine inspections and preventive maintenance on machinery and systems.
- Collaborated with team members to troubleshoot and resolve technical issues effectively.

Published App Developer 02/2023 to Current

- Developed and launched entertainment app on Google Play Store, increasing user engagement and expanding audience reach.

PATHWAYS SCHOOL NOIDA

Noida, India

Math Advanced Group Mentor 07/2023 to 05/2024

- Chosen as a mentor for over 100 talented students, guided them in applying their foundational mathematics knowledge to creatively solve complex mathematics problems.
- Guided students in academic and personal development through structured mentoring sessions.
- Facilitated workshops to enhance student engagement and foster skill-building activities.
- Collaborated with teachers to identify student needs and tailor support strategies.

Leader of Founders Day Tech Team 10/2023 to 11/2023

- Planned, set up, and managed technical aspects for the school's Founders Day event, including sound, lighting, and audiovisual presentations.

STUDENT COUNCIL - PSN

Noida, India

Tech Coordinator (Student Council) 07/2021 to 05/2023

- As the Tech Coordinator on the Student Council, I was deeply involved in planning and managing Tech Week at my school, a celebration of technology through various innovative events. My responsibilities ranged from logistical planning and coordination with team members to handling the technical setups essential for ensuring smooth operations of each event.

EDUCATION

BACHELOR OF SCIENCE: COMPUTER SCIENCE (SPECIALIST) + MATHEMATICS MAJOR

Expected in 06/2029

University of Toronto, Toronto

Courses Taken (including Transfer Credits & Currently Enrolled):

- MAT137Y1 (1.0 cr)
- CSC110Y1 (1.0 cr)
- CSC111Y1 (0.50 cr)
- MAT223H1 (0.50 cr)
- AST201H1 (0.50 cr)
- STA130H1 (0.50 cr)
- PHL245H1 (0.50 cr)
- ECO1*** (0.50 cr)
- CSC***: Equivalent - 108 (1.0 cr)
- MAT1***: Equivalent - 136 (0.50 cr)
- PHY1***: Equivalent - 131 (0.50 cr)
- PHY1***: Equivalent - 132 (0.50 cr)

IBDP 1: PHYSICS HL, MATH AAHL, COMPUTER SCIENCE HL, CHEMISTRY SL, SPANISH AB INITIO SL

07/2025

Pathways School Noida, Noida, Uttar Pradesh, India

- Achieved Honor Roll recognition for earning one of the highest overall scores in a cohort of approximately 90 students in the DP1 program.
- Perfect HL Score: 21/21
- Tech-Coordinator(Student Council) for Pathways School Noida
- Commended by all teachers for keen interest shown in learning, critical thinking skills, and communication skills.
- Working on a academic paper(EE) on AI & ML.
- Investigating the topic: Predictive Analysis of Housing Prices Using Linear Regression and Decision Tree Models

IB MYP: MATH EXTENDED, DIGITAL DESIGN, PHYSICS, CHEMISTRY, INTEGRATED HUMANITIES 05/2023

Pathways School Noida, Noida, Uttar Pradesh, India

- 7/7 Maths Extended & Digital Design (Merit received in both)
- 6/7 Physics, Chemistry, & Integrated Humanities
- Rubik's Club Leader for 30+ students
- Certified Android and IOS Developer
- Game Development with deep UI/UX interface Certification
- Started a Animal Welfare Organisation (not registered)

ACCOMPLISHMENTS

International Maths Olympiad Finalist (Aditya

Birla BITS Pilani Infinity-Advanced), Finalist in one of the most prestigious maths olympiads in India, competing against 2000 students to come in the top 50 in the Advanced rounds.

Waterloo Fermat Mathematics Competition Distinction 25% (highest distinction achievable)

Empowering teacher with tech skills, Chosen from my school as part of my CAS project to equip teachers from Sai Bal Sansaar with the right tools to smoothly use technology for the propagation of education.t

Research Paper accepted to prestigious conferences such as NAACL SRW '25 & SoCal NLP Symposium '24, however, was unable to attend due to financial challenges.