Rajan Agarwal
Software Engineer

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University of Waterloo

Notable Experiences

Shapeshift / Machine Learning

FEB 2023 – PRESENT • Entrepreneurship

Developed a novel Fourier algorithm to analyze earthquake decay and optimize the design of earthquake resistant buildings, using peer-reviewed math.

Machine Learning to reduce the urban planning due diligence process from three months to 15 seconds, resulting in substantial time and cost savings. Collaborated with esteemed institutions, including Costa Rica Seismic Facilities, to conduct rigorous experiments and validate the efficacy of the algorithm.

Arterial / Founding Engineer

OCT 2022 – FEB 2023 • Entrepreneurship

Pre-Seed Raise $400,000, led by Contrary. Worked with largest Urban Planning firms in Canada, scaling urban planning summarization to hundreds of planners. Built with NestJS NextJS PostgreSQL GraphQL to automate urban planning analysis through novel intelligent policy analysis.

Camp Social / Software Engineer

MAY 2022 – OCT 2022 • Internship

Worked closely with backend and frontend engineers to build a cohesive APIs and microservices, scaling to hundreds of active users. Built infrastructure for hosting offline and IRL meets while maintaining backend incentivization on the platform. Wrote thousands of lines of production code, applying Next.JS, Ruby on Rails and Typescript along a team of 7 engineers and designers.

Hack Club / Full Stack Engineer

JUN 2022 – JUL 2022 • Contract

Built and designed a new application management platform, reaching 1M+ students & featured in the Github Newsletter, to bring free CS tools to 7,000 high schools internationally.

Team Salutem / Public Health Analyst

SEPT 2021 – May 2022 • Internship

Worked with the Nigerian Ministry of Health and Public Health Representatives in Bauchi to construct remote impact strategies and implement clean water/agricultural systems. Conducted 100+ surveys and analyzed health trends in villages. Led a team of 7 to design local and international campaigns.

Education

University of Waterloo / BSSE

2023 – 2028

Studying Honours Software Engineering

Turner Fenton / High School

2019–2023

Graduated with Honours 4.0 GPA 99.5%. Completed the International Baccalaureate Program Top 5% International. Acting **President** of Debate Society, Business Club, Coding Club and Wellness Program.

Independent

Author / The Platonist

2023

Fictional novel personifying the works of Plato. 100+ copies sold, **Top 20 Philosophy Books** in North America

ConnexSci / Hack the North

2022

Won Canada's Largest University Hackathon in High School, embedded 250k research papers to be available for public funding.

Founding Member / ChoiceDAO

2022

Co-led raising $25k for Reproductive Access. Led international teams, engineered solutions for digital debate and fund allocation.

Student Researcher / University of Toronto

2021

Used COBWEB simulation software to model the neurodegeneration in the pathogenesis of diabetic retinopathy.

Workshops / Hack Club

2021

Wrote curriculum for thousands of students learning to code, from scratch to full-stack. Hosted IRL workshops about web dev, AI, as well as ways to compress files using a piano.