

# Swayam Chaulagain

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## EDUCATION

- **Trinity International College** Kathmandu, Nepal  
*GCE A Levels* 2020 - 2022  
*Courses: Mathematics, Further-Mathematics, Physics, Chemistry, Computer, English General Paper*
- **St. Joseph's School** Gorkha, Nepal  
*SEE - Secondary Education Examination (equivalent to grade 10)* 2010 - 2020

## SKILLS SUMMARY

- **Languages:** Python, JavaScript
- **Tools:** GIT, PostgreSQL, MySQL, SQLite
- **Platforms:** Linux, Web, Windows, Arduino, Raspberry
- **Soft Skills:** Leadership, Problem-Solving, Editorial Skills, Event Management, Debating, Volunteering

## EXPERIENCE

- **Mathematics Initiatives in Nepal, Kathmandu, Nepal** December 2020 - Present  
*Instructor and Content Writer*
  - Working as a number theory instructor in different camps
  - Preparing blogs and conducting online sessions regarding topics in mathematics
- **Program in Mathematics for Young Scientists (PROMYS), Boston, MA** July 2022 - August 2022  
*Participant from Nepal*
  - Completed rigorous Number Theory course under the guidance of Prof. Glenn Stevens and Henry Cohn
  - Conducted research with Prof. David Fried on "Pisano Periods"
- **New York Academy of Sciences, New York, NY** Remote  
*Junior Member* July 2020 - June 2022
  - Collaborated with young geniuses from all around the world to propose research solutions for different challenges like improving telemedicine, tackling eutrophication, and effective vaccine distribution
- **NORHED Rupantaran Project - Funded by Norwegian Government** November 2021–January 2022  
*Trainer and Research Assistant*
  - Introduced robotics to a syllabus of a community school in Dapcha
  - Created AI-based plant disease detection system to assist Prof. Sanjay in his agro-based research
- **Sci-Tech Guild - Trinity International College** August 2020– May 2022  
*Project Designer and Coder*
  - Worked on different projects and represented college in different exhibitions
  - Conducted national level sci-tech expo in the college
- **St. Joseph's School, Gorkha, Nepal** April 2019– April 2020  
*Student Editorial Head*
  - Leded the school's Editorial board and successfully published school magazine Josephites on school's silver jubilee
- **STEM Foundation Nepal** January 2021– Present  
*STEM Student Ambassador*
  - Working to aware high school students about STEM opportunities available for high school students of Nepal
- **Nepal Scout** April 2018– April 2020  
*Member*
  - Volunteered in different district-level events
  - Represented Gorkha in National Scout Jamboree
- **Livingston Research** January 2022– September 2022  
*Freelancer*
  - Worked as a freelancer during my weekends doing different tasks of mathematics and statistics

## PROJECTS

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- **Heart Disease Detection Machine:** A machine learning project involving the analysis of signals from the heart using Raspberry-Pi, ESP-32, and Arduino to predict potential abnormality in heart
- **Plant Disease Detection Robot:** A rover to analyze leaves and parts of a plant using Raspberry-Pi, Pi-cam, and Arduino and predict potential disease in specific plants
- **Floor Cleaning Machine:** A robot that cleans the floor, created using Arduino and dc motors
- **Laser Security System:** A house security system made using photosensors and alarms
- **Automatic Candy Vending Machine:** A project based on simple machine in physics that vends specific candy on specific coin insertion

## TRAININGS

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- **Introduction to Quantum Computing Course 2022:** Successfully completed quantum computing course by the coding school with the support of IBM (6 months)
- **MA001: College Algebra, Saylor Academy:** Successfully completed a college algebra course from Saylor Academy
- **Canopy Nepal, Beyond Borders:** Successfully completed a college algebra course from Saylor Academy
- **Intel Institute Bridge Course 2020:** Successfully completed a 3 months bridge course in advance science

## HONORS AND AWARDS

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- Mehta Fellowship Award 2022 - Full Sponsorship to PROMYS at Boston University
- Selected for USEF Nepal's Opportunity Funds program 2023 (16 selected students out of 800 applicants)
- American Mathematics Olympiad 2022 by SIMCC - Silver Medal
- Represented Nepal in the International Mathematical Modelling Challenge 2023
- One of the winners of National Mathematical Modelling Challenge by Mathematical Association of Nepal
- Finalist for IMO 2022 selection from Nepal(Top 20 of 2000)
- All Nepal District Mathematics Olympiad 2022 - Second Position
- Selected for Euler Summer Class 2023 with scholarship
- Selected for Horizon Academic Research Program Summer 2023
- Academic Excellence Award (Full Scholarship) 2020-2022, Trinity International College
- National Level Trinity Sci-Tech Expo 2022 - Second Prize Winner
- International Youth Math Challenge 2020 - Bronze Honor
- Valedictorian - St. Joseph's School (Top 1 of 80)
- Gorkha District Inter-School Quiz Competition 2020 - Second Prize Winner
- Inter-School Science Exhibition Little Flower School, Chitwan 2019 - Winner