Ryan Newkirk

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Education

Northwestern University
McCormick School of Engineering
Computer Science
                    – Undergrad 2020-2024
Whitney M Young Magnet High
School   – Graduated June 2020

Notable Coursework

Data Structures & Algorithms
Fundamentals of Computer Programming
Engineering Analysis
Multivariable Differential & Integral Calculus
Design Thinking and Communication
Microeconomics & Macroeconomics

What Excites Me

Coding, Hackathons, Edutainment Video
Production, Badminton, Chess, Piano, Virtual
Reality, Robotics, Museums, Smart City

Skills

C, C++, Java, JavaScript, Python, R, Julia,
Haskell, Racket (DSSL2), GitHub Pages,
Arduino, Web/Mobile App Development,
Data Science, Onshape CAD

Awards

FIRST Robotics
Chicago Regional Championship 4-Time
Winner
2019 World Competition Team

Business Professionals of America 2018-2020
2-Time National Competition Qualifier
JAVA Programming
    Chicago Citywide Competition, 1st Place
    State Competition, 3rd Place
Computer Programming Concepts
    State Competition Winner

2018 Congress of Future Science and
Technology Leaders Award of Excellence

2019 American Invitational Mathematics
Examination (AIME 12) Qualifier

Activities & Experience

Google Kick Start & Code Jam   2019-2021
Competed in an international programming competition, solving a set of algorithmic problems in a fixed amount of time. Qualified for Round 1, scored in the top 4% worldwide.

Northwestern Design Thinking & Communication   2020-2021
Designed a smart learning device for non-profit organization Kids in Danger to facilitate remote learning for kids during the Covid-19 pandemic.

Chi Hack Night   2018-Present
Attend weekly meetups to discuss civic issues and analyze city data. Co-developed the Chicago 311 Virtual Assistant and worked on the "Books to Women in Prison" project.

Google Computer Science Summer Institute   2020
Learned how to build web applications using the p5 Library, APIs, Node.js, and ExpressJS.

Whitney Young Mobile App Inventor Club   2017-2020
President and Founder of this club. Organized weekly meets, led design of mobile apps. Created a website to host information for 150 school clubs.

FIRST Robotics – FIRST Tech Challenge   2017-2020
Programmed robots using Android Studio. Applied mechanical engineering, electrical engineering, and circuitry skills to build robots that compete in performing tasks.

Business Professionals of America   2018-2020
Building information technology skills and applying Java knowledge to business related problems. Represented Illinois at the 2019 National Leadership Conference in the JAVA Programming competition, and NLC qualifier in Computer Programming Concepts in 2020.

Michigan Institute for Data Science Summer Camp 2019
Exploring Data Science through Nature, Art, Athletics, and Autonomous Vehicles. Learned to teach computers how to distinguish data sets using JuliaBox, and Jupyter Notebooks.

UChicago Young Scholars Program   2015-2018
Attended University of Chicago Math Department summer program for three years, studying Number Theory and Geometry. Designed the summer camp T-Shirt in 2018.

Northwestern Center for Talent Development Program: Mechatronics   2018
Learned electromechanical design and prototyping. Built circuits and robots from scratch, using low-level electrical components, laser cutting, and 3D printing mechanical parts. Built an autonomous smart shopping cart. Wrote code to read sensors & control actuators.

Fenghua Academy Youth Leadership Program   2017
As a foreign student teacher, I planned classes and organized cultural exchange activities for a class of 35 students at the San Yuan Foreign Language School.

Whitney Young Math Team   2016-2020
Studied advanced mathematics concepts and competed in many contests.
2019 AIME (AMC 12) Qualifier. 1st-3rd place top team in math leagues at the city and state level; City of Chicago Math League, North Suburban Mathematics League of Illinois, Illinois Council of Teachers of Mathematics, etc. Created math videos, 4-time CCML video contest winner and overall 1st place in the CCML 2019 video contest.