

Ryan Newkirk

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Education

Whitney M Young Magnet High School
Graduating June 2020

Coursework

Notable

AP Computer Science

AP English & Comp

AP Physics 1,2

Math through AP Calc BC

Favorites

AP CS

H Business

Number Theory

Mechatronics

Skills

Programming Languages

Java, Processing, HTML/CSS (and various abstractions), Javascript, SQL, Haskell.

JavaScript/Web Development

React, Node, Jekyll, Github Pages

Technologies

Mac, Windows systems, Arduino, 3D-Printing, CAD

Design & Graphics Software

Final Cut Pro, Adobe Premiere & Photoshop, Autodesk TINKERCAD

Awards

2016 Broadcom National Science Competition Broadcom MASTERS nominee

Chicago's Youth Math symposium QED 2015, 2016 Highly Distinguished Mathematics Research Award.

Business Professionals of America 2019 JAVA Programming
Chicago Citywide Competition, 1st Place
State Competition, 3rd Place
National Competition Qualifier

2018 Congress of Future Science and Technology Leaders Award of Excellence

Interests



Activities & Work

Whitney Young Mobile App Inventor Club

President and Founder

2017 – Present

Started this club as a freshman to gather students with or without coding experience to learn how to create mobile apps and build computational thinking skills. Work includes organizing weekly club meets, leading design, discussing code, and teaching new member basic app development skills. Built S-Mart prototype, a student resource sharing app to help students get easy access to school supplies, textbooks, and information. Built WY School Club App, and developed a website (<https://x-ry.github.io/wyclub/>) to host information for over 130 school clubs.

FIRST Robotics

Team Member

2015 – Present

Participated in First Lego League teams “Seismic Squad” in 2014 and “Lego Fire” in 2015. Participated in First Tech Challenge team “Robophins” from 2017-2019. Programmed robots using Android Studio, acquired skills in mechanical engineering, electrical engineering, and circuitry. Wrote and maintained an Engineering Notebook. Participated in team fundraising activities. 4-time winner of Chicago Regional Championships. World Competition Qualifier.

Whitney Young Math Team

Spring 2016 – Present

4 years in a competitive math league. City of Chicago Math League, 1st place team for 4 years. North Suburban Mathematics League of Illinois, 3rd place team for 3 years. Illinois Council of Teachers of Mathematics, Top 3 team in state competitions for 3 years. 2019 AIME (AMC 12) Qualifier. Created math videos, 4-time CCML video contest winner and Overall 2019 video contest team winner.

Foreign Student Teacher Chengdu, China

Summer 2017

Attended Fenghua Academy's Youth Leadership Development Program, as a volunteer, taught younger Chinese students English and organizing culture exchange activities.

UChicago Young Scholar Programs

Summer 2015, 2016, 2018

Attended University of Chicago Math department summer program for three years, studying Number Theory, Geometry and broadening my understanding of math. Designed the YSP 2018 Summer Camp T-shirt based on the Markov model.

Northwestern Center for Talent Development Program: Mechatronics

Aug 2018

Took mechatronics to learn 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 vehicle: a smart shopping cart. Wrote code to read the sensors and control the actuators.

Civic Tech: Chicago Virtual Assistant Project

2018-Present

A regular at ChiHackNight, a weekly event for Chicago coders to get together build, shared and learned about civic tech. The last project I worked on was building a Chicago Virtual Assistant; a voice-controlled 311-request system.

National Honor Society /National Junior Honor Society

2016-Present

Took on service roles to support our school and community. Volunteered in several Chicago Marathons, at the Great Chicago Food Depository, and several school/community events. Completed over 180 hours of volunteer service over 4 years in high school.

Free Geek Chicago Technician

2018-Present

Helped dismantle computers and refurbish parts to create new computers for low-income families.

Business Professional of America

2018-Present

Focused on building information technology skills and applying Java knowledge to business-related problems. 2019 Chicago Citywide Competition, JAVA Programming First Place Individual. 2019 State competition, 3rd place individual in Java programming. National competition qualifier.

Congress of Future Science and Technology Leader

2018

Focused on building information technology skills and applying Java knowledge to business-related problems, while developing leadership skills and an academic understanding of microeconomics and macroeconomics. 1st place at the Chicago Citywide Competition, 3rd place at State Competition, National Competition Qualifier.

Michigan Institute For Data Science Data Science Summer Camp

2019

Exploring Data Science through Nature, Art, Athletics, and Autonomous Vehicles. Learned to teach computer to distinguish data sets using many tools; JuliaBox, Jupyter Notebooks, Oculus VR Headset

UIUC ILLINI Summer Academies

Summer 2018

Explore Electrical and Computer Engineering, through hands-on, minds-on activities.

UIUC: Worldwide Youth in Science and Engineering Program

July 2019

Study Mechanical Engineering, through hands-on, minds-on activities.

Northwestern College Bridge Program

2019

