

# JAY RAM

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## Washburn Rural High School – Class of 2020

GPA: 4.821 (Weighted) Class Rank 1/485

SAT: 1580/1600 (780 EBRW 800 M) 800 Math II Subject Test, 800 Physics Subject Test

PSAT: 1470/1510 - National Merit Semifinalist

Advanced Placement Exams: AP Statistics (5/5), AP Physics 1 (5/5), AP Physics 2 (5/5), AP Calculus BC (5/5), AP Physics C Mechanics(5/5), Physics C Electricity & Magnetism (5/5) , AP Macroeconomics (4/5), AP Microeconomics (5/5) AP Chemistry, AP Computer Science (May 2020)

International Baccalaureate Diploma Candidate: Higher Level Chemistry, Further Math, English A, History. Standard Level Spanish B, Psychology. Scheduled to sit IB exams in May 2020.

## Employment

*BC Capital: Summer 2018, Summer 2019*

- Software development intern (2018) / junior developer (2019) for a financial technology company
- Developed projects using C, C++, and Python
  - Developed back-end algorithms for fraud detection in 2018 using C++
  - Developed various features for check image analysis
    - Algorithm to check for valid countries using UN data in C++ (2019)
    - Developed an OCR process that can efficiently read hand-written checks using OpenCV and Python (2018,2019)
    - Worked on financial transaction report generator in Java (2019)

*A Plus Learning Center: Summer 2017, 2018*

- Math Tutor. Taught elementary math concepts to young children.

## External Coursework

*Stanford Online High School: 2019-2020 School Year*

- Fall: Light and Heat (ongoing)
- Spring: Partial Differential Equations, Modern Physics (scheduled)

*Stanford Online High School: 2018-2019 School Year*

- Fall: AP Physics C Mechanics, Linear Algebra. Received A in both classes.
- Spring: AP Physics C Electricity and Magnetism, Differential Equations. Received A in both classes.

*University of Kansas: Summer 2018*

- Studied Microeconomics and Multivariable Calculus. Received A in both classes.

*Awesome Math: Summer 2017*

- Studied advanced algebra and geometry topics.

*University of Kansas, Engineering Summer Camp: Summer 2016*

- High level introduction to concepts in electrical engineering.

## Awards

- Kansas 11th Grade Chess Champion (2019), Tie for runner-up for State Chess Champion; 5-1 record (2019)
- Won 1st place at Emporia State University, Washburn University, and Pittsburg State University Math Competition (2018-2019)
- 1st place at Great Plains Math League math competition (2017-2019)
- Won third place in team Kansas State University programming contest, (2017- 2019)
- Honorable mention, F=MA examination (2019)
- 2nd place in Fermi Questions at Science Olympiad Regionals (2019)

## **Awards (continued)**

- Presidential Scholar Candidate (2019)
- National Merit Scholarship Semi Finalist (2019)
- National AP Scholar, IB Diploma Candidate (2019)
- Varsity Scholars Bowl, 1st place Regionals, 4th place State (2019)

## **Independent Study**

*IB Further Mathematics HL – Present*

- Studying Group Theory, Discrete Math, Euclidean and Computational Geometry, Graph Theory, Calculus, Calculus-based Statistics, and Linear Algebra

*AP Microeconomics and Macroeconomics - 2019*

*AP Calculus BC Self Study - 2018*

- Obtained a score of 5/5 in AP Calculus BC exam

## **School Organizations/Activities**

*Computer Programming Club: President, 2017-present.*

- Taught C++ programming to other students, participated in programming and cybersecurity competitions.
- Placed 3<sup>rd</sup> in state at Kansas State Programming Contest in 2017, 2018, 2019

*Scholar's Bowl – Varsity: 2018-present*

- Team member specializing in Math, Physics and Chemistry.

*Math Club: Co-President 2017-2019/President, 2019-present*

- Captain of the math team, organized school trips to math competitions and events.
- Won several individual and team awards

*Chess Club: Vice-president 2017-2018; President, 2018-present*

- Organized chess tutoring for elementary school students, captained team in chess competitions.

*Science Olympiad: President, 2018-present.*

- Organize meetings and recruit for Science Olympiad team.

*Cross Country: 2016- 2018*

- Ran for WRHS cross country team.

## **Community Volunteer Work**

*Topeka and Shawnee County Public Library: Present*

- "Curate This" – Library-sponsored program for high school students to curate the spring exhibit in the library gallery.
- Designed event promotion materials and assisted in the construction of the exhibit.

*Capper Foundation/ Easter Seals, 2015-Present (1 week/year)*

- Volunteer with iCan bike, a program to teach bicycle riding to special needs children.
- Trained in teaching and interacting with special needs children.
- Run alongside the children to help them learn cycling and keep them safe from falls.

*Freshman Mentor / WRHS 2018-present (2 hours/year)*

- Help Freshman adjust to high school life and organize activities.

*National Honor Society: 2018-Present*

- Selected through a competitive application process, community service volunteering.

*Youth Chess Camp: 2018*

- Taught elementary school students from across Topeka chess fundamentals with two classmates co-organizing.

## **References**

Nicholas Bowling, IB English Teacher and Programme Coordinator, [bowlinic@usd437.net](mailto:bowlinic@usd437.net)

Marcie Fredrickson, IB Counsellor, [fredema1@usd437.net](mailto:fredema1@usd437.net)

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