Physics Resume of
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## Physics Competition Experience

I enjoy taking part in physics competitions. I started taking physics seriously the summer before grade 12, and here are some of my accomplishments.

1. **Rudolf Ortvay Competition in Physics** (2020): *First place.*
2. **McMaster Physics Contest** (2019): *First place.*
3. **Thomas Jefferson Physics Olympiad** (2020): *Second place.*
4. **Online Physics Brawl** (2020): *34th.* I competed as a team of one and came 34th out of 181 teams in the Open category (undergraduate and up. Out of the total 45 one person teams, I came second.
5. **PUEC Research Competition** (2020): *Special Prize.* Our team wrote a mini research paper which analyzes the effects of resonance in our solar system.

## Teaching Experience

I currently work for Art of Problem Solving (AoPS), an online education organization known for their mathematics and physics competition preparation.

1. **Physics Worldwide Online Olympiad Training Program**: I am currently working as a Halper, answering questions on the discussion board and helping any students who are stuck. The course covers the syllabus on the International Physics Olympiad (IPhO).
2. **F=ma Preparation Course**: I was a teaching assistant for the $F = ma$ course, which prepares high school students for the first round of the US Physics National Team selection process.

## Other Projects

1. **Online Physics Olympiad**: I founded, and write problems for the Online Physics Olympiad, a two-part competition which attracts hundreds of students from 40+ countries.
2. **PhysOlymp Curriculum Developement**: Under the guidance of Pavel Levchenko, the coach for the Kazaghstan national physics team, I wrote problems and helped expand the app *PhysOlymp*, a mobile application designed to train for physics olympiads.
3. **Various Community Projects**: I am actively seeking to grow the physics competition community. I started and maintain the website physoly.tech, which contains original resources such as handouts, translations, and solution manuals which I have contributed to and edited. Currently, an average of 400 users frequent the site each week.
4. **Physics Olympiad Discord**: I am the owner of the Physics Olympiad Discord Server, a community of over 2000 physics students. Before university, I helped write *Problem of the Days*, which are neat problems modified from different sources, and provided feedback for any submissions received.

## Self Learning

Over the summer, my focus changed from Physics competitions to learning some more advanced physics. Here are the courses and topics I taught or am currently teaching myself with the help of physical and online resources:

1. **Quantum Mechanics**: I am studying the MIT OCW 8.04 Quantum Physics I (Spring 2016) course. I have written up solutions to 6/10 of the problem sets and I am supplementing my learning with *Griffiths*.

2. **Aerodynamics**: I am currently doing research for the University of Toronto Aerospace Team (UTAT) by investigating the potential for high order panel methods such as PAN AIR to quickly determine aerodynamic coefficients. I am doing background reading in Anderson's *Fundamentals of Aerodynamics*.

3. **Thermodynamics and Statistical Mechanics**: I learned my thermodynamics and some statistical mechanics (e.g. Boltzmann, basic Quantum Statistics) with Schroeder's *Thermal Physics*.

4. **Classical Mechanics**: I have learned classical mechanics (including Lagrangian formalism, special relativity, moment of inertia tensor) through David Morin's *Introduction to Classical Mechanics*, and have done most of the problems.

5. **Electromagnetism**: I learned electromagnetism through Purcell and Morin's *Electricity and Magnetism*, although their formalism was not vector calculus heavy.