

# GREGORY WILLIAM JOSEPH D. LIU

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## EDUCATION

### **Philippine Science High School – Central Visayas Campus (June 2013 – May 2019)**

Rank 1 out of 83  
Graduated with Highest Honors (General Weighted Average of 1.16)  
Excellence Awardee in Physics, Math, and Computer Science  
DOST Award for Model Science Scholar  
PSHS Leadership Award

### **Carnegie Mellon University (Class of 2023)**

Will major in Electrical and Computer Engineering

## ACADEMIC PROFILE

### **SAT Reasoning Test with Essay (May 2018)**

790 in **Mathematics**  
720 in **Evidence-Based Reading & Writing**  
6-4-6 for **Reading, Analysis, and Writing**

### **SAT Subject Tests (October 2018)**

800 in **Mathematics Level 2**  
800 in **Physics**  
760 in **Chemistry**

### **Other college acceptances**

- University of California – Los Angeles
- Case Western Reserve University
- University of the Philippines – Diliman (INTARMED qualifier: Top 100 in UPCAT)
- De La Salle University (Archer Achiever: Top 71 in DCAT)

## HONORS

**Silver Medal, International Invention and Innovation Competition in Canada (iCAN) 2018**

**Bronze Medal, Malaysia Technology Expo 2018**

**Champion, iGEN: Ideas to Innovation (PSYSC STEM Expo) 2018**

**2<sup>nd</sup> Place, Samahang Pisika ng Visayas at Mindanao (SPVM) National Conference 2018**

- Various innovation competitions where I submitted a device and subsequent smartphone app that translates sign language into text using a convolutional neural network. Designed system also translated pictures of text into speech for the reading impaired and converted text to speech for the speech impaired.

**2<sup>nd</sup> Place and Special Award, Hack4PH 2018**

- National open-age hackathon organized by the Philippine Department of Information and Communications Technology
- Special award for most creative use of technology; only qualified high school participants
- Designed a travel app to improve jeepney transportation scheme and ease congestion in jeepney terminals

### **1<sup>st</sup> Place, DOST-SEI InnoBox Competition 2018**

- National open-age competition organized by the Philippine Department of Science and Technology to design an innovative teaching tool
- Designed a system that demonstrates concepts in fluid mechanics at real-time and can act as a surveying tool for field research

### **1<sup>st</sup> Place, COMPASS STEAM Robotics Cup 2018**

- National competition for designing innovative solutions to problems in growing cities
- Designed a handheld air monitoring device that pairs with your smartphone and alerts users if their surrounding air parameters reach hazardous levels

### **1<sup>st</sup> and 3<sup>rd</sup> Place, Arduino Day 2019**

- National competition for creating innovations using the Arduino platform
- Presented an improved version of the device we submitted for Hack4PH and another plug-and-play device we created that allows users to control computers completely through voice input

### **Finalist for the International Physics Olympiad (IPhO) National Eliminations 2018**

- Eliminations for the country's representatives to the world's most prestigious high school competition for Physics
- Top 5 overall, Top 2 non-graduating

### **Finalist for the National Olympiad in Informatics (NOI) 2017-2019**

- Top 30 in the country's most prestigious programming competition
- Placed 8th in NOI 2019
- Qualified for the Training Camp for the International Olympiad in Informatics (IOI)

### **Finalist for the International Olympiad in Earth Science National Eliminations 2018**

- Eliminations for the country's representatives to the world's most prestigious high school competition for Physics
- Top 4 overall

### **Youth Excellence in Science (YES) Awardee 2019**

- National Award by the Philippine Department of Science and Technology for students that win in international STEM competitions

### **Various STEM and Economics Competitions**

- 1<sup>st</sup> Place, University of San Carlos Astronomy Quiz Bowl (2016-2017) - Cebu
- 1<sup>st</sup> Place, University of the Philippines Cebu InterHigh Programming Contest (2017-2019)
- 1<sup>st</sup> Place, University of San Carlos Physics Olympics Quiz Bowl (2018) - Cebu
- 2<sup>nd</sup> Place, PSYSC Science Olympiad (2015) – UP Diliman
- 2<sup>nd</sup> Place, Kapnayan Chemistry Quiz (2016) – UP Los Baños
- 2<sup>nd</sup> Place, e-Convergence Economics Quiz (2018) – UP Los Baños
- 2<sup>nd</sup> Place, National Youth Congress Policy Paper Competition and Debate (2016) – UP Diliman
- 3<sup>rd</sup> Place, UP Alchemes National Science Conquest (2017) – UP Diliman
- 4<sup>th</sup> Place, Ateneo Chemistry Olympiad (2017) – Ateneo de Manila University
- 4<sup>th</sup> Place, e-Convergence Economics Debate (2016) – UP Los Baños

## RESEARCH EXPERIENCE

- **Development of a Mobile Android Application on Optical Character, Speech, and Sign Language Recognition**  
Published: Proceedings of the 2018 Samahang Pisika ng Visayas at Mindanao National Conference  
ISSN: 1665-4620
- **Shelf-life Characterization of Graphene-Starch Biocomposite on *Musa acuminata***
- **Mechanical Characterization of a Biomimetic Prototype based on the Shell Structure of *Lottia kagamogai***

## ADDITIONAL EDUCATIONAL EXPERIENCE

**Delegate**, Sakura Science High School Program, Tokyo, Japan (2018)

**Delegate**, International Student Science Fair, Busan, Korea (2017)

**Internship**, National Institute of Physics, University of the Philippines – Diliman (2016)

## ACTIVITIES

### **Regional Science Camp 2018**

Co-organized a 2-day science camp with over 200 participants from Grades 5 & 6, showing how science is fun from making water rockets to synthesizing polymerized rubber balls.

### **Chem-on-the-Go**

Co-organized a chemistry show where we visited nearby high schools that lacked access to proper laboratories. The show included a play that demonstrated chemistry tricks as well as workshops for both students and teachers explaining different chemistry phenomena

### **Society of Young Physicists**

Founder and President of a club that encourages peer learning of theoretical physics. The club organizes school-wide tutorials in Physics and organized Physics workshops for local high schools.

### **Enthusiastic Inventors and Sci-Tech Innovators (EINSTEIN) Club**

Member of a club that organizes various outreach and peer mentoring programs for local high schools

### **EZ Math Workshop**

Volunteered to organize a math workshop for struggling students in a local technical-vocational senior high school. Taught tips on improving fundamental skills for basic arithmetic.