

## Mabel A. Szeto

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**Education:** Del Norte High School, San Diego

Graduation: June 2021

Current GPA: 4.07

### Skills

- Leading and building high performance teams with empathy and specialty in conflict resolution
- Co-founder and Member of Board of Directors of a 501(c)(3) tax-exempt organization for the advancement of science, technology, and arts
- Proficient in systems engineering process utilized in many engineering environments
- Experience in leading/organizing robotics competition events with 25+ volunteers and 80+ participants. Train many organizers/judges in the process.
- Passionate in teaching and mentoring students and coaches in robotics
- Proficient in Office software, Adobe Photoshop, Adobe Illustrator, iMovie, and Blender

### Summer High School Technical Intern - Northrop Grumman

June 2020 - present

- Responsible for supporting a billion-dollar airborne gateway program, Battlefield Airborne Communication Node, by reducing sprint backlog in an agile team environment. Participated in sprint meetings working with subject matter experts, scrum master, product owners, and development team.
- Utilized Product Data Management (PDM) tool to review drawings and schematics in SolidWorks. Released update drawings in PDM. Provided simulation modeling support by updating material database to ensure proper specification and data accuracy. Created cable connectivity spreadsheet using interface control document and schematic.

### RoboSub Robotics - Team Inspiration

2019 – present

RoboSub is an international collegiate competition where students from around the world design and build Autonomous Underwater Vehicles (AUVs). These experimental AUVs' behaviors resemble those of real-world systems used for underwater exploration, seafloor mapping, sonar localization, and other applications. Competitors are from world-class universities such as Caltech, Carnegie Mellon, Cornell, National University of Singapore, UC Berkeley, and UC San Diego.

- **Advisor and Business Lead** of a team that comprises of 12 members ranging from 8<sup>th</sup> to 12<sup>th</sup> grade. Provide advice on competition strategy, technical paper, and team branding.
- **Team Captain** in 2019. Responsible for the planning and execution of the competition strategy in a short 4-month learning cycle maximizing the skill sets of the team.
  - **Ranked 1<sup>st</sup> overall in the world out of 33 teams (2020)**
  - **IEEE Oceanic Engineering Society Innovation Award (2019)**
  - **Most Inspirational Team Award (2019)**
  - Ranked 2<sup>nd</sup> in U.S. and 3<sup>rd</sup> in the world in static judging (2019)
  - Ranked 7<sup>th</sup> in U.S. and 12<sup>th</sup> in the world overall out of 59 teams (2019)
  - Named Number One Young Inventor by ABC's "The LIST" on the 2021 National Inventors' Day

### Robotics Instructor

2017 - present

- Teach week-long robotics camps for K-12 students
- Guide local and international robotics coaches and mentors to train robotics students
  - 30+ mentored robotics teams excelled in qualifying tournaments and placed in state and international level competitions
  - Benin's robotics team ranked 7<sup>th</sup> in the world and 1<sup>st</sup> in Africa in 2017
  - Benin's mentor received the best mentor award out of 168 countries in 2018

### FIRST Tech Challenge (FTC) robotics - Team Inspiration

2016 – present

- **Team Captain** of an experienced team of 10 members ranging from 7<sup>th</sup> to 10<sup>th</sup> grades in 2017-2018. Direct leads of mechanical, software, and outreach groups in accomplishing our team mission "to learn, to share, to innovate, and to inspire." Responsible for managing the team from planning and scheduling of tasks, game strategy development, trade study, STEM outreach events, material procurement, to fundraising. FTC robot is an Android operating controlled robot with both autonomous and remote-control functions.
- Mentor for FIRST Global robotics teams of Benin of Africa, and Paraguay of South America
- **Principal designer** of the robot game for the 1<sup>st</sup> national robotics competition in Benin, Africa
- Partner with Northrop Grumman on many industry sponsored events including BEWISE and INCOSE
- Development of robotics curriculum for Monarch School (school for homeless students)
- Key presenter of robotics at San Diego Mesa College's robotics forum and UCSD's Robofest

- Advancement to the World Championship in 2020, 2018, and 2017
- 200+ STEM outreach to teach robotics, reached over 50,000 students locally and globally
- Benin's robotics program expanded to 13 schools and the program is being duplicated in Paraguay. Co-hosted Benin's first national robotics competition and Paraguay's youth robotics scrimmage at Polytechnics College of National University of Asuncion.

### ***TiE Young Entrepreneurs - Team Lotus***

**2018 – 2019**

This program is for high school students to learn the various aspects of entrepreneurship, from formulating an idea, turning their idea into a business concept, to converting the business concept to a repeatable, scalable, and profitable business model.

- Responsible for researching financial benchmarks and formulating the finance model for the team
  - **Best Teamwork Award** and finalist at the 2019 Global Competition

### ***CyberPatriot Competition***

**2017 – 2018**

- Competed in Windows, Linux and Network to enhance computer security and to remove vulnerability
  - Placed top 8% in the nation. Received **Good Teammate Award**.

### ***Leadership Development***

**2016 - 2020**

- Manna's Leadership Development Program and Instructor Training

### ***Awards and Recognitions***

- Presenter at Marine Technology Society in 2021
- Presenter of systems engineering process at INCOSE conference in 2020 and 2019
- National Center for Women & Information Technology (NCWIT) Regional Rising Star Award (2021)
- President's Volunteer Service Award – Gold (2020 and 2019)
- Scholarships awarded by Northrop Grumman, Society of Women Engineers, Robotics Inspiring Science and Engineering, and Elks National Foundation
- AP Scholar with Honor Award
- Selected member of National Honor Society (NHS)
- Letter of Appreciation from the U.S. Embassy in Benin, Africa for outstanding outreach efforts
- Certification of Admiration/Appreciation/Excellence/Volunteer awarded by the Scripps Ranch Civic Association, Include Autism, Northrop Grumman Employee Resource Groups, Polytechnic College of National University of Asuncion, and BENINBOT Challenge 2019
- Semi-Finalist for FIRST Dean's List Award

### ***Volunteer***

- President of WE STEM, a SWENext (Society of Women Engineers for grade school) club
- Co-Head of Graphic Design for *The Featheralist*, a humanities magazine of Del Norte High School
- SproutEd – taught algebra online
- Link Crew Leader at Del Norte High School – providing positive impacts in students' lives
- Include Autism – leading activities helping kids with special needs in learning robotics
- UrbanLife Ministries – leading summer camps helping disadvantaged kids in learning robotics
- Fundraising for American Diabetes Association and The Educational Martial Arts System

### ***Sports***

- Varsity Martial Arts Letter in 2021 and 2020
- 3<sup>rd</sup> degree black belt and instructor in Tang Soo Do
- Certified SCUBA diver

### ***Publications***

- Competitive Edge of the 2020 RoboSub World Champion Team – INCOSE 2020
- The Design of Team Inspiration's 2020 AUVs – RoboSub/RoboNation 2020 – ranked 1<sup>st</sup> in the world
- #RoboSub Influencer 2020 - Inspiring the Next Generation of Systems Engineers - INCOSE 2019
- Team Inspiration 2019 RoboSub Journal - RoboSub/RoboNation 2019