Rebecca Shen

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EDUCATION

TUFTS UNIVERSITY *Expected May 2022*
Bachelor of Science in Mechanical Engineering *Medford, MA*
    G.P.A 3.77, Dean's List

> *Relevant Courses:* Electromechanical Systems & Robotics; Intro to Robotics and Mechanics; Engineering Design; Materials and Manufacturing; Mechanics; Thermal Fluid Systems; Differential Equations; Linear Algebra; Probability & Statistics– *Fall 2021:* Digital Controls & Dynamic Systems; Robotics

SHANGHAI AMERICAN SCHOOL (SAS) *May 2018*
    G.P.A 3.86, Magna Cum Laude, National Merit Commended Student, AP Scholar with Distinction *Shanghai, China*

WORK EXPERIENCE

FUTURE EDUCATIONAL TECHNOLOGY LAB *June 2021 – August 2021*
Research Intern *Tufts Center for Engineering Education and Outreach*
- Designed LEGO robotic systems integrated with IoT, AI, and data analytics
- Trained systems using JavaScript, Python, and advanced ML algorithms using PTC's industrial IoT platform ThingWorx and TensorFlow
- Expanded SPIKE Prime robot functionalities by developing WiFi communication interfaces with REST API and MQTT

COURSE ASSISTANT FOR MECHANICS I *September 2020 – December 2020*
Tufts University Mechanical Engineering Department
- Graded assignments, held weekly office hours, advised and supported Arduino/MATLAB labs for engineering students
- Participated in a weekly pedagogy seminar to discuss and enhance diversity and inclusion in engineering courses

ENGINEERING EDUCATION INTERN *June 2020 – August 2020*
Tufts Center for Engineering Education and Outreach
- Aided curriculum development for Mechanics I & II with professors to incorporate hands-on modeling and simulation tools
- Created 14 supplementary video and MATLAB script modules for statics, dynamics, and mechanics of materials
- Simulated a kinetic sculpture mechanism and validated results with SolidWorks and Logger Pro video analysis

STUDENT TEACHER OUTREACH MENTORSHIP PROGRAM (STOMP) *September 2018 – December 2019*
STOMP Fellow (January 2019 – December 2019) *Tufts Center for Engineering Education and Outreach*
- Developed and taught weekly lessons aimed to implement STEM education in local elementary schools
- Introduced engineering design process to students using Lego Robotics and Scratch coding

Resident (Fall 2018)
- Mentored small groups of K-6 students while assisting weekend engineering workshops
- Coordinated with residents to plan and lead a 25-student workshop that explored real-life engineering problems

PROJECTS

ADORE-SAT CUBE SATELLITE (TUFTS) *January 2019 – Present*
Communications/Ground Station Subsystem Co-Lead
Students for the Exploration and Development of Space (SEDS) Member
- Develop nanosatellite using MIT electrospray thrusters as part of Boston Space Alliance (Tufts, MIT, Northeastern)
- Strategize with subsystem to establish radio communications, secure a ground station, and calculate link margin

ACTIVITIES

American Society of Mechanical Engineers (ASME) & Society of Women Engineers (SWE) *Fall 2018 – Present*

SKILLS

SOFTWARE & HARDWARE: Java, JavaScript, MicroPython, Python, R, C++, MATLAB, SolidWorks, COMSOL, Arduino, Raspberry Pi, KiCad, LabVIEW
OTHER: FCC Technician License for Amateur Radio, Mandarin, Piano (14 years), Violin (8 years)