Francis Gold Sy

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EDUCATION

City University of New York, City College **Expected Grad:** *June 2022*
Major: B.E., Mechanical Engineering; Minor: Computer Science *GPA: 3.86*
Relevant Coursework: Computer-Aided Design, Mechanical Systems Design, Fundamentals of Mechatronics

PROFESSIONAL SKILLS

Software: SolidWorks, Autodesk Fusion 360, MATLAB, Arduino, Java, Python, Gazebo, R.O.S.
Manufacturing*:* FDM & SLA 3D Printers, Laser Cutter, Prototyping, Design for Manufacturing

EXPERIENCE

Biomechatronics and Intelligent Robotics Lab, CCNY *Oct 2020 – Present*
Undergraduate Research Assistant
• Simulating different configurations of a servo-actuated foldable robot using Gazebo and R.O.S.
• Utilizing Gazebo and R.O.S. in an Ubuntu workspace with GitHub implemented into project workflow
• Programmed custom python scripts to enable keyboard control using Gazebo's Joint Position Controllers
• Created custom URDF file to make a parallel-configured robot model with fine-tuned physics parameters
• Created a python script that executes configuration animations using Rviz – a R.O.S. 3D visualization tool
• Experimented with MATLAB's Robotics System Toolbox to construct and control joints

WearWorks Inc, NYC
Mechanical Engineering Intern *June 2020 – Aug 2020*
• Collaborated in a team of three to design, iterate, and prototype a haptic smartwatch for manufacturing
• Reduced manufacturing costs by integrating design feedback from injection molding companies
• Conducted plastics and stress simulations in SolidWorks to optimize product for manufacturing
• Managed DFMEA, PFMEA, process flow chart, and other manufacturing-related documents
• Identified and communicated with promising U.S. and overseas suppliers for B.O.M. needs
• Ideated and modeled different versions of packaging for company product
Engineering Intern *Jan 2020 – Feb 2020*
• Lead development and production of the WayBand for showcasing events and projected product launch
• Soldered, assembled, and applied surface-finishing techniques for Wayband production
• Operated and maintained the Form 2 for product iterations and development

Zahn Innovation Center, CCNY *Feb 2019 – May 2020*
Engineering Apprentice
• Using SolidWorks, Fusion 360, 3D printers, and laser cutter for various projects and design applications
• Executed design of various client-requested products through small team collaboration
• Experienced in the use and maintenance of FDM and SLA 3D printers
• Designed, iterated, and delivered a multi-accessory K-8 mathematical learning apparatus to an outside client

DogSpot Inc, NYC *June 2019 – Aug 2019*
Engineering Intern
• Supported circuit board production through wire prep, soldering, and board assembly
• Managed circuit board materials and maintained hardware inventory
• Streamlined circuit board production through documentation of assembly and troubleshooting processes
• Maintained strong communication with assembly team to ensure deadline completion and smooth workflow

PROJECTS

Customized PCB Keychains *August 2019*
• Used Autodesk Fusion 360 to create a two-part keychain casing using a snap-fit mechanism; included company logo on front and font-customized names on the back
• Soldered LEDs, wires, battery mount, and button onto circuit boards; installed boards into 3D printed casing

ACCOMPLISHMENTS

• September 2019: S Jay Levy Fellow – a selective year-long professional development experience
• March 2019: Mark Zemansky Introductory Physics Prize Winner