Matthew Gutierrez

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EDUCATION

Rensselaer Polytechnic Institute (RPI), Troy, NY
B.S. Mechanical Engineering — MAY 2021
Computer Science Minor — GPA 3.83

SOFTWARE SKILLS

- CAD Software: Solidworks, NX (modeling and finite element analysis)
- Programming Languages: Java, MATLAB & SIMULINK, C++, Python, JavaScript
- Microsoft Excel

COURSEWORK

Elements of Mechanical Design — SPRING 2020
- Used concepts of stress, strain, and failure phenomena for design of mechanical components such as shafts, bearings, and gears

Modeling and Control of Dynamic Systems — SPRING 2020
- Modeled mechanical, electrical, and electromechanical systems and designed PID controllers using root-locus and frequency response analysis

Thermal and Fluids Engineering II — FALL 2019
- Applied thermodynamic, heat transfer, and fluid flow principles to engineering systems such as power generation, HVAC, and automotive design

Numerical Computing — SPRING 2021
- Solved problems including systems of equations, least squares approximations, integration, and differentiation using numerical methods

PRACTICAL EXPERIENCE

Laboratory Course Work
- Programmed microcontroller to balance a mini segway using sensor input
- Simulated kinematics and dynamics of a cable robot in MATLAB

Capstone Project — FALL 2020
- Improved a thermoplastic composite fiber creation system
- Designed adjustable tensioning subsystem for carbon fiber
- Automated the wheels pulling fiber through system via a microcontroller

Quadcopter Project — SUMMER 2020
- Built a self-leveling quadcopter for a personal project
- Controlled motors using an Arduino and feedback from sensors
- Designed and fabricated mounts via Solidworks and 3D printing

Introduction to Engineering Design Project — SPRING 2019
- Designed and developed a prototype chest compression machine for CPR
- Controlled a DC motor using a microcontroller with feedback from sensors

WORK EXPERIENCE

Walmart, Avon, CT *CAP 2 Associate* — SUMMER 2019
- Maximized sales by ensuring availability of products to customers
- Assisted customers with product location and selection

Green Mountain Running Camp, Meriden, NH *Counselor* — SUMMER 2017, 2018
- Responsible for groups of 10-15 campers
- Organized and executed recreation activities every night

ACTIVITIES

- Varsity Track and Field — 2017 – 2020
- National Society of Leadership and Success Member — FALL 2018 – 2021

HONORS

- Dean's Honor List — FALL 2017 - SPRING 2021
- Rensselaer Leadership Award — AUG 2017 – MAY 2021
- Bausch and Lomb Science Award — MAY 2016
- Certificate of Merit Society of Women Engineers — MAY 2016