

Gwynne Sahyun

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SUMMARY

Junior B.S. Electrical Engineering student at MSOE minoring in Math and Physics with diverse hands-on, team-based engineering project experience and leadership experience. Currently studying abroad in Lübeck, Germany for the 2022-2023 school year. Worked 12 hours per week (2021-2022) with full academic schedule.

EDUCATION

B.S. Electrical Engineering | Milwaukee School of Engineering | GPA: 2.97 | Expected May 2024

INTERNSHIP EXPERIENCE

Undergraduate Research Assistant | University of Central Florida | Orlando, FL | May – August 2022

Problem: Battery testing system dependent on digital system and unable to operate independently.

Project: Implemented an analog power-controlled discharge mode to an analog current-controlled load board used for discharging Li-ion batteries.

- Implemented PID controller to stabilize voltage output
- Implemented op amp multiplier to obtain power control value
- Implemented op amp subtractor to mitigate error between control value and system value.
- Implemented safety relay and logic to disconnect system if values fall outside expected ranges.

Due to delays and shortages of parts, the system was not implemented before the conclusion of the internship.

PROJECT EXPERIENCE

Sumo-Bot Project Competition: Designed, fabricated, and programmed Sumo-Bot: 6x6 inch base with weight of 1.5 lbs, had spin & lateral movement controlled by IR LED sensor and MSP432 microprocessor, programmed in C with analog line sensors to detect edge of sumo ring.

Robot Pet Project (Team of 2): Created a pet robot that follows light at a set distance, retreats when too close to light, and "sleeps" when too far from light. Used photocell light sensor, analog line sensor for "petting" feature, and potentiometer for speed control. Utilized MSP432 microprocessor programmed in C.

Analog Sensor Project: Created a version of game "Flappy Bird" on small LCD screen using analog line sensors, one to control "flapping" and one to control language (English to German).

TECHNICAL SKILLS

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|-------------|----------------------|---------------------------|
| ▪ C | ▪ High Power Systems | ▪ MATLAB/Simulink |
| ▪ C++ | ▪ VHDL | ▪ Multisim/PSPICE |
| ▪ Arduino | ▪ Soldering | ▪ 3D Printing |
| ▪ Waveforms | ▪ Breadboarding | ▪ Linear Circuit Analysis |

LEADERSHIP | CO-CURRICULAR INVOLVEMENT | COMMUNITY SERVICE

Sponsorship Coordinator | MSOE NASA Lunabotics Team | September 2021 – May 2022 | 5 hrs/wk

FRC Mentor | FIRST Robotics Competition | January 2022 – May 2022 | 7 hrs/wk

Volunteer | FIRST Robotics Wisconsin Regional | March 2022

Pre-Intern | MKE Tech Hub Coalition | June 2021 – August 2021

WORK HISTORY

Tech Support | MSOE Electrical Engineering & Computer Science Dept. | Sept. 2021 – May 2022 | 12 hrs/wk

INTERESTS

Power Electronics | Programming | Physics | Video Games | Violin | Robotics | Travel | German | Circus Arts