YOUNG SUNG LYUN

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Education

University of California, Los Angeles (UCLA)

B.S. in Electrical Engineering GPA: 3.91 / 4.00 June 2020 – June 2022

• Eta Kappa Nu (HKN), Dean's Honor List – Fall 2020, Winter 2021, Spring 2021, Fall 2021

Skills

C/C++, Python, Git, Linux HTML, CSS, JavaScript, React, Firebase

Altium Designer, MATLAB, Simulink, LTspice

Projects

Bruin Supermileage Electric Vehicle October 2020 – Present

C++, Altium Designer, PCB, LTspice, Arduino, Teensy

• Led a Motor Controller Project to use Brushless DC Motor first time ever for Shell Eco-Marathon competition
• Designed a parameter-configurable software with an automatic fault handler for 4 different safety features
• Improved performance of the motor by 200RPM, manipulating source and sink currents per transistors' spec
• Implemented a PD controller for accurate speed control and limit maximum current to minimize power loss

Crane Aerospace & Electronics Automated Test Equipment June 2021 – Present

C, C++, Altium Designer, ADC, DAC, DAQ, Relay, MUX, PIC, CAN

• Reverse-engineered 12 adapters to design a new tester responsible for testing 30+ analog circuit cards
• Inspected test scripts and limits for 3 different programs and revised them to resolve testing errors in 5 cards
• Implemented communication software for a card to serve as a intermediator between the tester and products
• Tested 3-wheel transducers and revised filters in test adapters to accurately calculate velocity of aircrafts

CPU Simulator October 2021 – December 2021

C++, RISC-V ISA, Pipeline Processor Design

• Realized 5-staged pipeline processor to emulate the behavior of CPU and compare different design models
• Implemented bit operations to parse 32-bit RISC-V instructions into 10 different commands in 5 lines of code
• Adapted Least-Recently-Used replacement policy to visually simulate position updating overhead
• Designed L1 cache in 2 different models and implemented cache miss penalties to check the benefits of cache

Cal Poly Pomona Multistage Rocket October 2021 - Present

Altium Designer, Altimeter, Motion and Thermal Sensors, Transceiver

• Designed circuits for avionics and recovery of a 2-stage rocket to reach 50,000 feet and safely return to ground
• Integrated 5 different modules and created schematics with notes for the team to easily verify the operation
• Reviewed adapted sensors and wireless modules to meet voltage requirement and environmental conditions

Work Experiences

United States Army Reserve | Team Leader November 2019 – Present

• Led technical decontamination team during 4 missions to protect against nuclear and chemical attacks
• Maximized mission capability by calibrating 5 different equipment for the entire unit before every operation
• Voluntarily participated in supply organization tasks and built racks for space utilization