Sophornnret Peou

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RESEARCH & INTERESTS Creative, motivated in seeking for new experiences in electrical/software engineering. Integration and technology of renewable energy sources, circuit design and controls.

EDUCATION & TRAINING

Bachelor of Science in Electrical Engineering July 2020 - December 2022
Double Concentration: Power Electronics and Drive, Sustainable Power System
University of Washington, Seattle Washington (FINISHED CAPSTONE)

Associate in Science September 2017 - June 2020
Edmonds College

Certificate of Java Developer June 2019

SOFTWARE & DIGI TOOLS ALTIUM Design, JAVA, MATLAB/Python/C, Visual Studio, PLECS, LT spice
Microsoft Tools/Visual studio, AutoCAD, Google Suite, Code Composer Studio

EXPERIENCE

Revature's Bootcamp Full Stack Software (Java, HTML, CSS) Sep 2022 - Nov 2022

Undergraduate Lab Research/Experiment, Seattle [E-bike] Sep 2021 - June 2022

"Under guidance of Prof. Brian Johnson and his team" [E- Bike Project]

- Safety first – always practice with safety as priority, respect procedure and guide
- Components picking, datasheet specs, filtering, calculation, and making budget list
- Build multi-stages complex boost converter(DC to DC) to 3 phase to BLDC motor
- PCB, Altium Design: Schematic, layout design, test points and plan, for fabrication
- Solder PCB Boards with micro components/SMT, lead/no lead, normal and reflow
- Understanding of close loop/open loop controller, technical drawing, instruction, and specs. Integrating IC, sensors, hall effect sensor to motor, system calibration
- Experience with graphing, plotting, bode plots, system stability, real time simulation
- Embedded, micro-controller with different signal and mixed signal processing
- Arrange test plans/test strategy, troubleshooting components/system stage by stage
- Implemented logic controller to hardware "TI DSP" for controlling system power flow and tracking voltage, current, speed regulation of the bike motor, ADC/DAC input/out
- Functional system Test: system integration, controls integration, boards bring up

Tools related: multi-signals oscilloscope, digital voltmeter, AC/DC variable PSU, power meter, TI DSP, soldering/reflow tools, Altium, Digital software for stability test/simulation, circuit/schematic design, and real time simulation software, PLECS RT Box, and firmware coding platform/signal processing, components datasheet analysis.

Undergrad Sustainable Power System: Power System Analysis/Dynamic/Protection

- Calculate active, reactive, complex, and apparent power in AC systems
- Describe and implement models of the various components of a power system
- Convert electrical quantities into per-unit system
- Write computer program that can solve the power flow problem/distribution
- Discuss the results that this program produces
- Use this program to identify acceptable and unacceptable operating conditions
- Explain the principles of economic dispatch and unit commitment
- Explain how frequency and voltages are controlled in power systems

Computer Hardware Components /Software February 2018 - Present

- Computer system debugging include hardware, firmware, and software
- Finding defects, analyze errors, replace components, and apply solutions
- Reading Specs and Manual to compare suitable components to use
- Wiring the system and cable managing to avoid hazard events that could happen

Hand Craft, Cars, Utility and Equipment January 2018 – Present

- Replacement home water heater tank, procedure and instruction must be followed
- Car Oil filter replacement, tire replacement, fix tire, disassemble and assemble Cylinder refill brake fluid.
- Redesign household interior including repainting, decoration, and repair.

Electronic Wire Assembler/Testing June 2017 – August 2017

- At Symmetry Electronics – Woodinville, WA
- Performing hand soldering, surface mount components under microscope
- Following instructions, blueprints specifications, gathering parts, inspect ensure quality
- Test light, electrical equipment, label products, routing/cabling & wire bundle basics
- Wire installation follow engineering drawings and online instructions

WSOS Mentorship Program Fall 2019 - Spring 2021

AWARDS & HONORS

Undergraduate Scholarship Awarded UW, Seattle, WA	Fall 2022
Washington State Opportunity Scholarship - Seattle, WA	Fall 2019 - Spring 2022
Foundation Scholarship EDCC - BOEING, MICROSOFT	Fall 2019 - Spring 2020
Certificate of Honor Roll Award of Academic Achievement	Fall 2018 – Spring 2020

RELEVENT SKILL & ABILITY

As a Team member and a lead

- Always on time, respect each other time and value other opinions
- Always think of everyone safety during the procedure of training and experiments
- Communicate with crew members in an efficient way and befriend the surrounding
- Pick up where crew mates lost and make up for the works when there errors
- Always doing my job efficiently according work flow
- Organize work space, keeping tools and supplies at proper location after finish
- Positive thinking and encouraging others that around
- Have fun working together/enjoy each other company love to act and get things done

Self-Ability

- Calculating, solving equation, unit conversion both by hand and using software
- PCB boards and micro components handling/ Computer components familiar
- Software research, usage and comparison experiments, which one more user friendly
- Able to work and learn in a fast pace environment, strong communication skills
- Experience with computing systems online
- Data collection, data analysis, using data processing tools, measurements
- Always organize and regulate work flow according to work time and schedule given
- Start early, easier to fix mistakes that I've made, and have more time to reconsider
- Ability to read and write and understand complex instruction, blueprints, and procedure
- Wiring, cabling, and wire gauge understanding
- circuit analysis, using theories such as ohm law, KVL, KCL, superposition
- Experience with Python, C, Java, and MATLAB
- Experience with software design such as Adobe Photoshop, Fusion 360, Video Editor
- Experience with graphing, plotting, bode plots, system stability test, and simulation

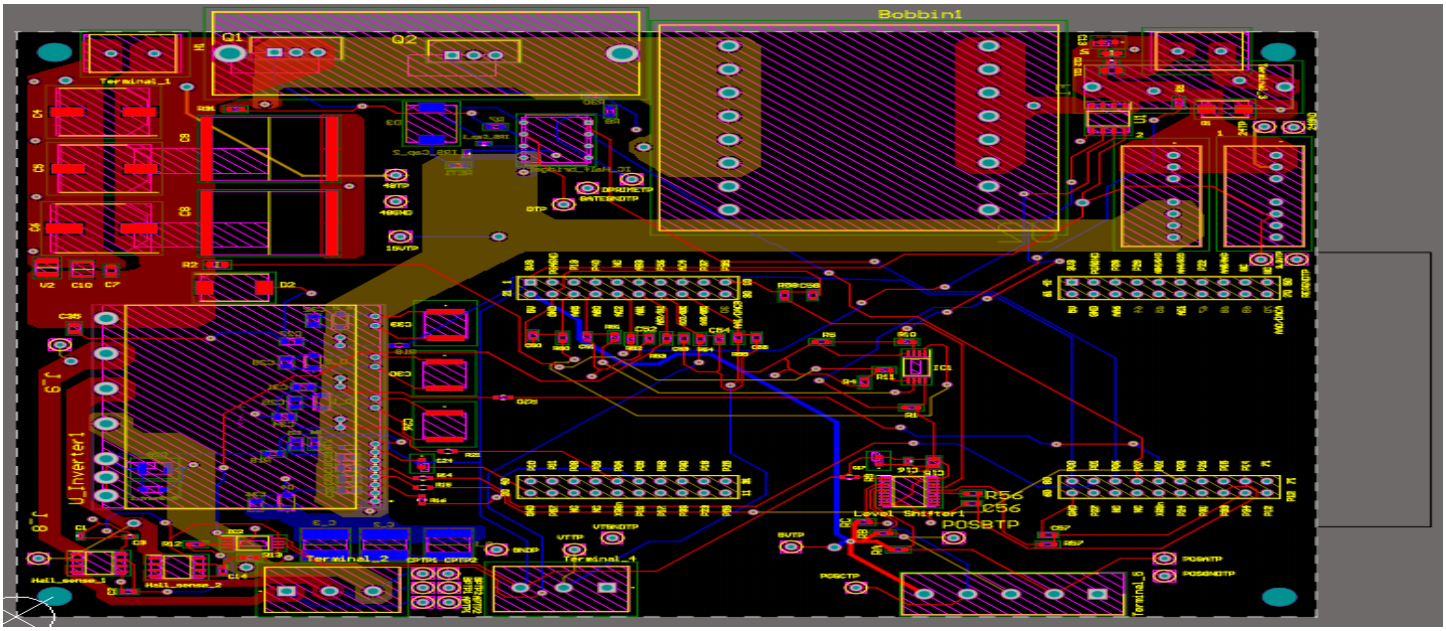
HAND TOOLS & MECH/ELECTRIC

Hand Tools & Electrical Tools

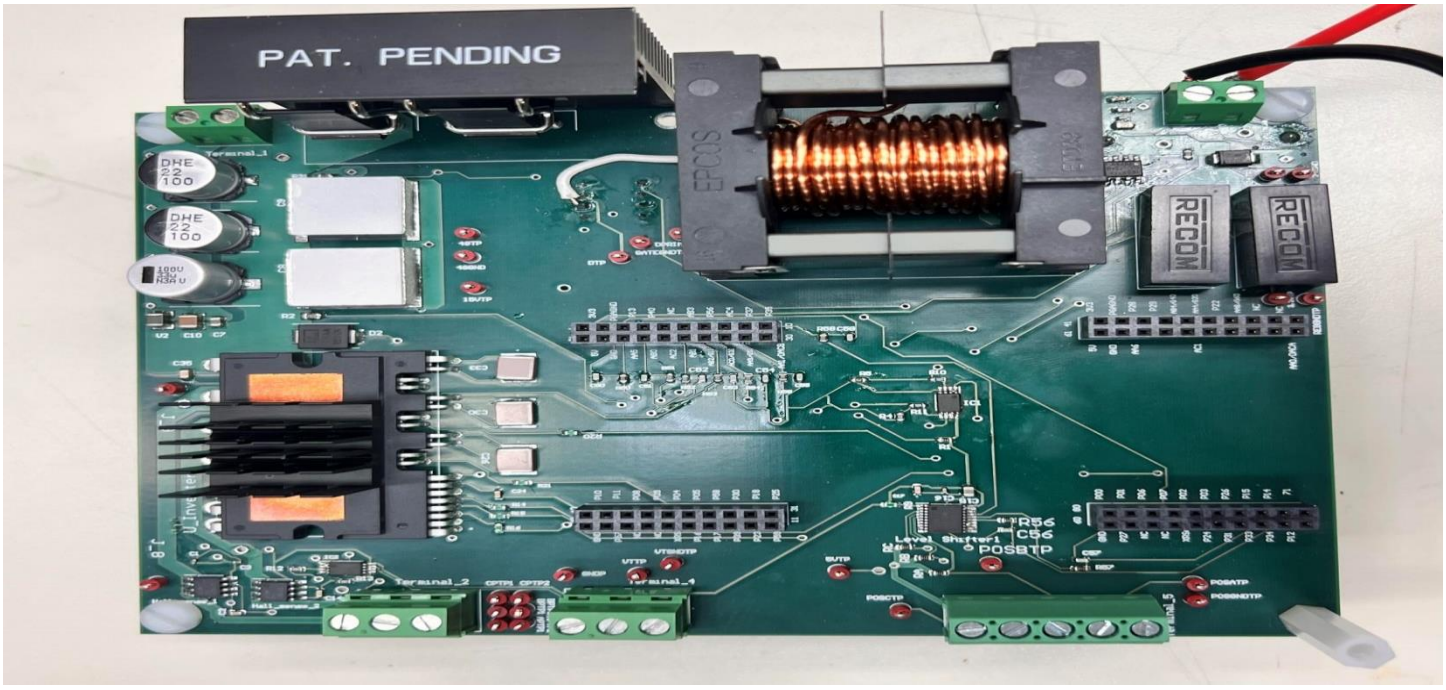
- Screwdrivers, multi head detachable screwdriver, socket wrench, adjustable wrench, adjustable socket wrench, wire cutter, plier, wire stripper, clamps, hammer, calk-gun.
- Electric drill with multiple drill bits, dust blower, electric air compress cleaner, soldering iron, multi-meter, electric saw, wood and stud scanner, electrical screwdriver

Mechanical Tools and Measuring Tools

- Tire pressure calibrator, oil filter wrench, grinder, tire torque wrench, table saw
- Rulers, measuring tape, multi-meter, measuring string, measuring mat



4 layers PCB Design: DC to DC to three phases system to power up E-Bike motor (ground plane invisible)



Integrated Power Board for Electric Bike