Zachary W. Walden

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Skills

–Software

Languages—C/C++ (Embedded(RTOS, PIC, STM32, AVR), Linux, Windows), Python, Assembly (AVR) , Verilog (CocoTb) , MATLAB/Simulink, Java (General, Android) , Bash

Other—GDB, Git, Qt GUI (Python & C++) , General Linux, UML, SYSML, LaTeX, Agile, Docker

–Hardware

Design—Kicad(PCB), Cadence Design Entry CIS, Digital (Microcontrollers, FPGA, 7400 series), Analog (Op-Amps, Transisitors, Diodes)

Verification/Validation—Cadence PSpice, Oscilloscopes

Prototyping—Breadboard, Iron & Hot Air, SMT (Experience with all package types besides BGA, QFN, & Wafer Scale) , THT

Education

–Oklahoma Christian University

Bachelor of Science, Computer Engineering, GPA 4.0/4.0, Summa Cum Laude *2018–2022*

Honors & Awards

–Oklahoma Christian University

- Outstanding ECE Senior *2022*
- Outstanding ECE Junior *2021*
- Outstanding ECE Sophomore *2020*
- The President's Scholarship *2018*

Experience

–Oklahoma Christian University

Professor's Assistant— *Dec. 2020 - Jul. 2021*

- Designed 2 revisions of a 3 channel adjustable full color laser diode driver board, using Kicad, to replace a 7 color driver board using an enhanced differential Howland Current Pump.
- Selected components to best meet the frequency needs of the system
- Reverse engineered 7-Color TTL driver board

Teaching Assistant: CENG-3203, CENG-3213— *Aug. 2021 - Apr. 2022*

- Helped students debug hardware and software issues with 8-bit AVR Microcontrollers & 74 series logic used to control HD44780 LCD's, Keypad enocoders, and parallel DACs
- Instructed students on Assembly language concepts

Teaching Assistant: ENGR-1122— *Jan. 2020 - Mar. 2020, Jan. 2022 - Apr. 2022*

- Guided students in constructing an autonomous robot
- Debugged Analog & Digital circuitry, and embedded C writtin for Microchip's 16-bit dsPIC line

–VisuALS Technology Solutions LLC

May. 2019 - Aug. 2020

Java Programmer—

- Designed a Spring REST API to authenticate a software purchase using a tablet's imei number
- Connected the authentication API to a SQL database that stored the hash of the imei
- Designed a SQL database, running on Google's Cloud
- Wrote dynamic Android U.I.
- Researched Machine Learning for text prediction

Projects

–8-bit 5-stage Pipeline RISC CPU
–DC/DC Boost Converter
–RGB Laser Scanner Controller
References