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REINER N. DIZON

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EDUCATION

University of Nevada, Las Vegas **Fall 2015 – Fall 2018**

Honors B.S.E. in Computer Engineering with Minors in Computer Science and Mathematical Science, graduating December 2018.
In-major GPA: 4.00

- Relevant Coursework: Information Coding Systems; Computer & Network Forensics; Digital Electronics; Advanced Embedded Systems Design; Embedded Digital Signal Processing; Operating System; Digital System Architecture & Design; Engineering Electronics I; Data Structures; Object Oriented Development

EXPERIENCE

Undergraduate Research Assistant **University of Nevada, Las Vegas** **Jan 2018 – Present**

- Focused on the instrumentation and calibration of force transducers and sensors related to the prosthetic knee using the dsPIC33 microcontroller and NodeMCU Wi-Fi module
- Researching as part of an Engineering Independent Study

Undergraduate Research Assistant **University of Nevada, Las Vegas** **Aug 2017 – Apr 2018**

- Focused on the comparison of the fault tolerance and resource utilization among certain image coding algorithms for deep space communication with FPGA hardware implementation
- Researching as part of my Honor Thesis for the Research Honors program and as a part of a NASA grant that aims to aid teaching modules under Dr. Emma Regentova

Undergraduate Teaching Assistant **University of Nevada, Las Vegas** **Jun 2017 – Dec 2017**

- Prepared materials and tools for image processing projects in the Embedded Digital Signal Processing class
- Helped the class set up the tools to implement image processing modules

PROJECTS

- **Augmented Reality Motorcycle Helmet:** Designed and built a Bluetooth hands-free system on a helmet with voice control and heads up display, specifically the voice recognition and the PCBs.
- **Canny Edge Detector:** Designed an FPGA hardware implementation of the Canny edge detection algorithm on the DE2-115 board with Gaussian and Sobel filters as well as parameterized double thresholding.
- **WeFee Bot:** Designed a Wi-Fi robot system with wall detection with a partner. Implemented using Atmega328p MCU as main controller and ESP32 chip as Wi-Fi gateway to smartphone.
- **Flight Search Program:** Programmed a flight search program using Dijkstra's shortest path algorithm on a flights graph. Hash tables used to increase insertion performance for airports info.
- **8-bit Multicycle MP**: Designed, simulated multi-cycle 8-bit processor with limited instruction set. Implemented onto DE2 board to demonstrate its functionality.
- **Police Siren and Lights**: Implemented a police siren and lights circuit onto a breadboard with a partner to demonstrate the applications of RC circuits, NE555 timer chips, and 4017 decade counters
- **Violin Rush**: Designed a rhythm-based game and programmed onto NIOS II processor in the Altera DE2 board utilizing the VGA display, key buttons, and switches for human interaction.

SKILLS

- Programming Languages: C/C++, Java, Python, Assembly (x64, MIPS, AVR), Verilog, LaTeX
- Software: Linux, Cadence/Virtuoso, Quartus/ModelSim, Linux, Git, Eclipse, Sublime, Atom, Eagle
- Languages: English (native), Tagalog (native), Spanish (conversational)

AWARDS AND HONORS

- **Dean's Honor List** (2015-2017): Awarded for maintaining at least 3.5 GPA as a full-time student
- **Differential Tuition Scholarship** (2017): Awarded upon selection among applicants with similar academic performance
- **First Place, Junior Design Competition** (2016): Won 1st prize for Violin Rush project
- **Governor Guinn Millennium Scholarship** (2015-2018): Awarded upon meeting Nevada high school graduation requirements
- **Tau Beta Pi**, member
- **Phi Kappa Phi**, member