Chandler Barfield

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Objective

Dedicated engineering researcher with 18 months of experience working in academia conducting research. Conducted approximately 200 user experiments and worked with other students both graduate and undergraduate students on 5 different research projects.

Education

Bachelor of Science in Computer Engineering   Expected Graduation: May 2024
Virginia Commonwealth University (VCU), Richmond, VA   GPA: 3.1
Minors: Math, Computer Science

Associates of Science in Engineering   Graduated: Dec 2022
Brightpoint Community College, Chesterfield, VA   GPA: 3.4
Cum Laude

Relevant Courses: EGRE365 Digital Systems, EGRE347 Applied Embedded Programming, CMSC475 Design and Implementation of User Interfaces (In-progress)

Skills

Programming Skills: C/C++, VHDL, Python, MATLAB, Rapid (ABB Robotics)
Hardware Skills: Analog and Digital Circuit Design & Analysis, Raspberry Pi, ABB Robotics, Elephant Robotics, FPGA Design
Other Tools: Proficient in MS Excel

Relevant Experience

Robotic Technician, **VCU,** Richmond, VA   June 2021- Jan 2023
- Designed, scheduled, proctored, and captured data for more than 200 user experiments with robotic technologies created in the lab.
- Used MS Excel to create spreadsheets to record more than 150 experiments and to organize and review the approximate 4,500 corresponding data points.
- Taught other undergraduate students on how to successfully conduct user experiments.
- Aided in the writing of two research papers as the subject matter expert of the user experience.
- Designed robot controller interfaces using Python that successfully interfaced with the robot.

Academic Projects

End of Semester Final Project, EGRE 365, VCU, Richmond, VA   Dec 2022
- The project consisted of four phases with an end goal to successfully design a tiltmeter using a Nexys4 Board with an accelerometer. I solely designed and implemented this project and was responsible for meeting all parameters of the final project.
- Phase 1 was to create the SPI control state machine to direct the FPGA which addresses to look for and when to read or write data for each axis.
- Phase 2 was to create a top level description and connect all the circuit components together to be downloaded to the Nexys4 Board along with outputting the x-axis data.
- Phase 3 was to allow the user to choose which data they would like to show using switches.
- Phase 4 was to create a save method, from this a delta would be calculated and a tiltmeter could be selected to be displayed along with all saved data points.

End of Semester Final Project, EGRE 347, VCU, Richmond, VA
- The project could be decided by the student. I choose to create a robot controller for elephant robotics myCobot 280 using my raspberry pi and a breadboard. I solely designed and implemented this project.

- I created functions to connect the raspberry pi and myCobot for data transfer through serial port connection.
- I created functions to send, receive, and update data points between myCobot and the raspberry pi depending on controller mode and button presses using a breadboard.
- I designed and developed a simple 4 button circuit using GPIO pins from the raspberry pi and a breadboard. The purpose of this simple circuit was to change active joint and to jog the robot in the positive or negative direction.

Other Work Experience

Shift Supervisor, **CVS Health,** Chesterfield, VA   Oct 2018 – May 2021
- Promoted from sales associate to shift supervisor after six months.
- Managed the front store and pharmacy while working, directing 2-3 coworkers on daily tasks.
- Accurately counted and restocked my designated section of the store on a weekly basis.
- Performed closing duties, this included cleanup, money counting, and locking up the store at the end of a night shift.