Xavier S. Johnson

901-647-2175| xjohnso5@vols.utk.edu

LinkedIn : linkedin.com/in/xavier-johnson-41a092199
Coding Projects: https://github.com/Mtowncoder
Portfolio: http://tweb.utk.edu/~xjohnso5

EDUCATION

University of Tennessee Knoxville
- Major: Mechanical Engineering | GPA: 3.68 | Sophomore | Expected Graduation Date: May 2024

WORK EXPERIENCE

Mechanical Engineering Co-op — May 2021 - Current
Siemens Healthineers — Knoxville, TN
- Designed sheet metal parts for various medical devices and created new drawing revisions per ASME Y14. 100-2004 in NX 12
- Created a tolerance stack-up to find angular displacement between two parts to ensure the misalignment of the belt drive of the Patient Handler System (PHS) was in allowable range
- Assisted development engineers in building and testing the Patient Handler System through life cycle, thermal imaging, and acoustic tests. Also assisted in prototyping new parts in order to improve safety/patient experience
- Performed machine design calculations to ensure components of PHS had allowable safety factors, allowable angle misalignments, and to find areas to improve such as using new materials, editing tolerances on drawings, and using new components
- Communicated with different suppliers/manufacturers to get quotes and ordered parts for engineers

Undergraduate Research Assistant — February 2021 – Current
University of Tennessee | Robotics Lab — Knoxville, TN
- Assisted in researching the use of robotic camera systems in minimally invasive surgeries (MIS) and in designing components of a product that uses a six DOF manipulator and other electrical components (SOLIDWORKS)
- Developed innovative housings to secure PCB, MC board, and electronic modules in a fully enclosed environment while creating new methods to connect the housing to a force torque sensor and an actuator assembly, in process of getting patent for design
- Improved actuator assembly by making the EPMs and micromotor easier to insert into housing, also created a method to connect this assembly to a part that houses multiple electrical components

Quality/Design Engineer Co-op — August 2020-Jan 2021
Bosch Home Appliances — Oak Ridge, TN
- Designed different parts using principles of plastic part design in NX 12 and used 3-D printing to rapidly prototype parts to ensure proper functionality
- Developed a Python script that communicates to Home Connect API Simulators and could change Fridge/Freezer Temperature, get current setting-states/temperature, and log action of engineer in an SQL database. Also created Graphical User Interface (GUI) to allow engineers to easily use features and input data
- Designed parts for refrigerator assemblies and drafted new refrigerator assemblies in NX 12 and Teamcenter PDM
- Assisted quality engineers in developing a data analytical software program in Excel to reduce time sorting through failure symptom data and filter necessary information
- Analyzed failure symptom and AR exchange data in excel and automated data entry tasks

Summer Help — June 2019 – July 2019
Wagner General Contractors — Memphis, TN
- Assisted construction workers in daily work and maintained a clean work environment while working at various locations in the city
- Worked at Shelby Farms and wheelbarrowed rocks down incline into holes and tightened nuts to support the Climbing Nest
- Assisted workers in drilling wooden slabs into metal slabs for seating
- Performed interior demolition at Riverdale Elementary, hammered out ceiling tiles, cut wires and rebar

PROJECTS

Lazy Dog Robot – EF 230 – Python Project – Spring 2020
- Created a speech recognition robot in Python that understands different commands and responds and/or performs an action
- The robot can tell the weather by utilizing an API, say different phrases based on input, give the time and date, and send an email including various resources that are tailored towards engineers

IEEE Robotics Club – Sumo bot – Spring 2021
- Created a sumo bot for competition with a custom chassis, Mecanum wheels, an Arduino, driver boards, and a lever mechanism
- Created lever mechanism with wooden ramp to throw other robots off balance/undercut front wheels

SKILLS & INTERESTS

Software: SolidWorks, Siemens NX 12, MATLAB, MathCAD, Teamcenter
Programming: C, Python
Technical: FEA (Nastran), Tolerance Stack-ups, 3D Printing, Data Analysis, GD&T
Interests: Robotics, Product Design, Research and Development, Space Exploration, Innovation, Public Speaking