Reese Clevenger

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EDUCATION

Bachelor of Science in Mechanical Engineering — **Atlanta, Georgia**
Georgia Institute of Technology — *December 2024*

EXPERIENCE

Electrical Engineering Intern — **Augusta, Georgia**
John Deere — *May 2024 – August 2024*

- Designed electrical harnesses to efficiently and safely provide power to different subsystems of tractors
- Designed, built, and programmed prototype of an electro-hydraulic rear hitch to give a premium feel for tractor operators previously relying on manual lever-action
- Redesigned negative battery cable to cut cost by over 5% leading to a savings of over $55,000 per year
- Redesigned hitch valve mechanism to reduce cost around 44% from $500 to under $300 per tractor

Mechanical Engineering Co-Op — **Atlanta, Georgia**
Factory Automation Systems — *May 2022 – August 2022*

- Worked on 6 projects in second term given higher responsibility in designing complete systems rather than individual parts
- Was the project lead for designing a pneumatic robot end-of-arm tool for precision movement of sheet metal parts
- Devised cycle test for robot (10,000 cycles) to confirm function and validate the machine
- Conducted machine vision testing for precise grabbing movements
- Optimized robot program to cut cycle time of an automated cell by more than 12.5%
- Programmed PLCs to efficiently run all stages of production, including sensors, conveyor belts, and robot movements
- Wrote program from scratch for a robot to perform pick and place movements to automate a packaging function

Mechanical Engineering Co-Op — **Atlanta, Georgia**
Factory Automation Systems — *August 2021 – December 2021*

- Worked on 8 different projects designing parts for mounting, bracketry, cable housing, and safety guards
- Entrusted to go on site to work with customers directly in hands-on installations and upgrades of robot cells, including overnight business trips.
- Resolved unanticipated issue by redesigning a system at the customer site and communicating with engineering team in Atlanta to get new parts built and shipped to customer site under extreme time constraints
- Developed electrical and pneumatic schematics for several robot cells

Suspension Subassembly Designer — **Atlanta, Georgia**
Georgia Tech Offroad Club — *April 2021 – December 2021*

- Worked as part of team developing offroad Baja vehicle for a race competition with other universities across the nation
- Responsible for design of upper A-arm of rear suspension to improve upon the previous year's shortcomings
- Redesigned suspension for weight reduction and performed FEA in ANSYS to validate the design

PROJECTS

Rubik's Cube Solving Robot with Computer Vision

- Wrote code in python for a computer vision system to recognize current state of Rubik's cube
- Designed robot to use 6 stepper motors to move faces and solve Rubik's cube

Guitar Phase Shifting Pedal

- Designed custom circuit to shift the phase of an analog guitar signal while keeping constant gain to get a unique sound
- Designed a printed circuit board for the circuit and sheet metal housing to hold the guitar pedal

SKILLS/INTERESTS

Technical: 3D Modelling (Solidworks) • PCB Design (KiCAD) • Harness Design (Siemens Capital Harness)
Programming: Python • MATLAB • Java • Logix500 (PLC)
Personal: Building/Playing Guitars • Sound Engineering (Recording and Mixing music) • Hobbyist Robotics