TIMOTHY BOYD

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EDUCATION

Michigan State University
Aug 2019 – Dec 2022
BS Computer Engineering, Minor in Business
East Lansing, MI

- GPA: 3.5

WORK EXPERIENCE

Operations Engineering Intern (Yanfeng Automotive Interiors)
May 2021 – Aug 2021

- Assisted senior operations manager in studying and improving efficiency of machines and processes used on the plant floor
- Collected data such as machine cycle time, parts per hour, maximum machine speeds, and more to analyze areas for improvement in day to day processes.
- Implemented a data processing system using the Python programming language allowing for easier processing of time study data than Microsoft Excel.
- Performed and presented calculations detailing the amount of time and money that could be feasibly saved by implementing suggested design

EXTRACURRICULAR ACTIVITIES

MSU STARX Team (Biomedical Sensors Sub-Team)
Sep 2020 – Present

- Worked as a member of Michigan State University's Strength Augmenting Robotic Exoskeleton team in the biomedical sensors sub-team.
- Used Myoware EMG muscle sensors in tandem with Python and Arduino programs in order to measure bio-electrical activity in the gastrocnemius, tibialis anterior, and rectus femoris muscles.
- Researched new muscle groups to place EMG sensors in order to allow for a larger range of functionalities for exoskeleton suits such as stair climbing and traversing rough terrain.
- Conducted research to replace Myoware EMG muscle sensors with wireless sensors to allow for a broader range of movement of the exoskeleton without fear of disconnecting sensors.

RELEVANT COURSEWORK

VLSI Design

Learned about Integrated circuit design fundamentals and specifications. Design layout rules, rule checking. Circuit extraction, simulation, verification. Team-based design.

Embedded Cyber-Physical Systems

Developed an understanding of modeling continuous and discrete dynamics of embedded cyber-physical systems (CPS). Performed various lab experiments involving the control of an RC and sphero robot using python and basic circuit design techniques.

Microprocessors and Digital Systems

Studied microcomputers and microprocessor architecture. Lab experiments involving assembly language programming and embedded systems development using a FRDM-KL25Z microprocessor built on ARM architecture.

Technical Tools

- C/C++, Python, Java, Verilog, Matlab, JavaScript, Linux OS, Microsoft Excel, Eagle PCB, Cadence Virtuoso