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NATHAN J. HOONG

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PROFESSIONAL EXPERIENCE

Contract Robotics Deployment Engineer **Amazon Robotics/TEKsystems** **July – Present**

- Supported the development of new process automation, by relating it to complex material flow and machine efficiency problems throughout the global Amazon supply chain.
- Managed multiple teams of third-party assemblers for the installations of stations, drives, and arms resulting in a reduction of production errors by 20% and a reduction of delays by 1.5 months.
- Analyzed, debugged, & ensured that all robotic drive & arms met and Amazon Robotics' GD&T requirements.
- Executed a continuous process improvement cycle to improve machine uptime and reduce breakdown.
- Enacted solution for robotic drive awakening procedure that cut procedure time from 5 to 2 hours per floor.

Systems Engineer, Capstone **Glaukos** **Sept – May 2020**

- Enhanced fatigue testing process for new product development by creating a periorbital simulator test fixture with 100% repeatability and reducing the time needed to test the product.
- Engineered a contact force system that can be moved into position, apply, and measure force using C++.
- Conceived data collection system with an accuracy of 99% from the load cell using an ADC, Arduino, and DAQ.
- Validated material and design choice structural stability with finite element analysis simulation on test fixture.

R&D Controls Engineer, Intern **Philips Respironics** **Jun – Aug 2019**

- Reduced test process from 4 hours to 30 minutes by enabling test procedures to be completed a program.
- Facilitated multiple design reviews to solicit feedback and offer insight into design to meet requirements.
- Collaborated with test engineers to gage usability requirements ensuring compatibility of test fixture with current workflow.
- Developed code for automated actuator controller using LabVIEW graphical programming environment.

Manufacturing Engineer, Intern **Senior Aerospace Jet Products** **May – Aug 2018**

- Integrated tools into organized ERP program that manages, tracks, and allows for accountability of tools.
- Improved manufacturing workflow by implementing tool storage identification and serialization system.
- Modified past tool designs using Solidworks and PDMto aid in the production of engine mounting solutions.
- Exceeded project goals by completing one-year project plan in tooling management program in three-months.

EDUCATION

San Diego, CA **University of San Diego** **Sept 2016 – May 2020**

- BS/BA in Mechanical Engineering, Major GPA: 3.28, Overall GPA: 3.13 - Deans List, May 2020.
- Undergraduate Coursework: Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), Introduction to Robotics, Human Factors Engineering, Machine Shop Practices, Manufacturing Processes, Fluid Mechanics.
- Involvements: Theta Tau Professional Engineering Fraternity, American Society of Mechanical Engineers.

PROJECTS

- **Wobbler Engine** (2018). Wrote detailed operation sheets, fabricated and assembled all components for the wobbler engine. Awarded a 3rd finish with a minimum running psi of 2.3.
- **Baja SAE Dyno** (2018). Adapted engine dynamometer to enable testing of drivetrain to ensure optimum drivetrain operation between the CVT and Engine.
- **Emergency Response Vehicle** (2016). Designed chassis of vehicle on Solidworks and fabricated vehicle using low cost materials. Devised steering capabilities using Raspberry Pi to control power sent to each wheel. C++

LANGUAGES AND SKILLS

- Software: ANSYS Fluent | AutoCAD | Agile | Git/Github | MATLAB | MultiSim | Solidworks & Solidworks PDM
- Programming Languages: C++ | Java | LabVIEW
- Machine Shop Equipment: Lathe | Vertical Mill | CNC Mill | Band Saw | Sheet Metal Bender | MIG Welding