

Justin Park

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EDUCATION

BS Mechanical Engineering, Minor in Data Science | Cumulative GPA: 3.29/4.00

May 2023

Iowa State University

SKILLS

Gauge R&R | Six Sigma | PFMEA | SQL | Python | Process Capability (Cpk) | SolidWorks | NX | Catia

WORK EXPERIENCE

Tesla, Manufacturing Equipment Engineer

May 2023 – Present

- Increase availability of manufacturing equipment from 65% to above 90% by identifying the root cause of equipment failures and implementing robust and reliable solutions
- Develop and troubleshoot PLC logic using IEC 61131-3 structured text standard in a TwinCAT XAE IDE
- Strengthen mechanical aptitude by understanding the pneumatic and electrical systems involved in each process of building a Model Y and Cybertruck stator

John Deere, Performance Engineering Part-Time Student

August 2022 – May 2023

- Analyzed 1 Hz data vs. 5 Hz data to determine the drawbacks of reducing data collecting frequency
- Used Databricks to write Python scripts to create data tables to store and analyze Autotractor Performance

Tesla, Manufacturing Engineering Intern

January 2022 – August 2022

- Designed plasma treating fixture and drove integration into PnP cell to decrease high thermal fallout due to contaminants in PCBA components resulting in a 2.4% reduction in EOL test failure rate
- Used Catia to verify product specifications and dimensions to design fixtures and validate manufacturing process
- Installed additional fastening station to increase the throughput of fastening by 42% on the inverter production line

Collins Aerospace, Industrial Engineering Co-Op

May 2021 – December 2021

- Led the Mexicali work transfer of tooling by reverse engineering and building tools for operators
- Developed and designed new manufacturing equipment using 3D CAD Software (SolidWorks), MetaBeam Laser, and 3D printer to increase efficiency and improve operator ergonomics

ICL Group, Mechanical Engineering Co-Op

May 2020 – December 2020

- Worked on 20+ process improvement projects while supporting production
- Studied the effects of using 1065 and 1085 Steel blades for drum dryers instead of 718 Inconel Alloy blades to improve quality and reduce costs by \$90k/year

PROJECTS

Strain Gauge Testing on PCBA Assemblies

March 2022

- Sourced NI CompactDAQ to perform strain gauge tests on PCBA assemblies during robotic PnP operation
- Coordinated with production to plan downtime to perform strain gauge test
- Calculated the principal strain to determine the strain induced on the boards was well within the acceptable range (800 μ strain)
- Presented results to key stakeholders so that PnP cell could be approved for production use on salable products

Mechanical and Electrical Installation of Robotic Cells

June 2022

- Planned installation by coordinating permit approval with the construction team, sourcing materials, and validating location per the factory design
- Created a day-to-day plan of what work would be completed on each day to ensure all deadlines were met
- Coordinated with construction, facilities, design, and production to tie in power supply, schedule inspections, and ensure there would be no interference with production

LEADERSHIP/EXTRACURRICULAR EXPERIENCE

Cyclone Racing Formula Team, Powertrain Team Member

August 2022 – Present

Iowa State Water Polo Team, Member

January 2021 – Present

Medinah Country Club, Volunteer Swim Coach

May 2017 – August 2019

Glenbard North High School, Swim Team Captain

September 2015 – February 2017