Thomas Guan

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EXPERIENCE

Mechanical Design Intern Jan. 2021-Aug. 2021
NETGEAR | Richmond, BC

Designed and tested various handheld and non-handheld plastic consumer connectivity devices, focused on **Design for Manufacturing** and **Design for Assembly** of various mechanical, optical, and electrical components.

- Translated industrial designs into feasible mechanical designs using PTC Creo.
- Developed mechanical mechanisms for consumer devices, such as sliding doors, clips, and hinges.
- Performed tolerance analysis on components of the device, such as power buttons to ensure fit and function.
- Studied designs incorporating various electronic parts, such as antennas, LCD screens and batteries.
- Designed display FPC components for fit and connection inside mechanical enclosures.
- Designed light pipes and other optical features for lighting on electronic devices.
- Used rapid prototyping technologies, like 3D printing, soldering PCBs, to test and validate potential designs.
- Physically tested devices to reach vendor standards, such as durability and drop testing.
- Performed mold flow analysis on plastic parts.
- Developed light pipe and lighting simulations using Trace Pro for ray-trace simulations.
- Drew and maintained standard engineering drawings for parts, full-device assemblies, and drawings for assembly.

Mechanical Engineering Intern Apr. 2019 - Dec. 2019
LB Foster Rail Technologies | Burnaby, BC

- Designed, modeled, and improved hardware designs for applicator and bracket mounting hardware. These pieces of hardware were typically fabricated out of steel.
- Translated client requests into early prototypes, refined them, and produced ready-to-manufacture designs.
- Drew and maintained standard engineering drawings for both parts and large-scale assemblies.
- Performed tolerance analysis on designed parts to ensure fit on client bogeys.
- Collaborated with Machinists to ensure feasibility and robustness of designs.
- Performed Finite Element Analysis on designed parts to analyze and prevent operating failures, specifically analyzing stress, strain, and vibrations.
- Performed time-to-failure tests on hardware and built simulations to validate results.

Mechanical Team Co-Lead Sept. 2019 - Dec 2021
UBC Sustaingineering | Vancouver, BC

Responsible for a small team of mechanical engineering students undertaking a wind turbine project, collaborating with other sub teams, stakeholders, professors, and clients.

Key Responsibilities:

- Lead the Mechanical team to develop a small-scale wind turbine out of repurposed and recycled materials.
- Lead design reviews with other members to identify possible ways to improve designs.
- Communicated and worked with stakeholders to ensure project was on schedule and aligned with stakeholder expectations.

EDUCATION

University of British Columbia | Bachelor of Applied Science, Mechanical Engineering (Mechatronics) Expected May. 2022

SKILLS

Mandarin Chinese| SOLIDWORKS |PTC CREO 7| Autodesk | Python | C/C# | Trace Pro |Hardware Manufacturing