Tynan J Winters

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- Solidworks CAD - 8 years
- Rapid prototyping and debugging
- 3D Printing, machining, laser cutting
- Python 3, C++, microcontrollers
- Wiring harness design and installation
- PCB design - 3 years

Founder and Engineer | Light Canopy - San Francisco | 2023 - Present

- Rapid prototype components using 3D printing and sheet metal fabrication; optimize designs for manufacturability and assembly (DFMA). 🔗
- Automate 3D printer part ejection with GCODE, reducing downtime and increasing production efficiency.
- Design PCBs for devices; perform soldering, assembly, and testing to ensure functionality.
- Design and fabricate 3D-printed waterproof electronics enclosure and custom silicone gasket.
- Integrate open-source LED software into a robust and cost-effective ESP32 microcontroller (C++).
- Develop relationships with fabric suppliers to streamline manufacturing processes.

Prototype Engineer 2 | Nissan Innovation Labs - Santa Clara | June 2019 - September 2023 | 4+ years

- Upgraded existing OEM vehicles to fully autonomous via sensor and hardware integration. 🔗
  - Designed aesthetic sensor structures and mounts using Solidworks Surface Modelling. 🔗
  - Fabricated sensor structures and mounts using 3D printing, machining, welding and laser cutting.
  - Designed and fabricated custom wiring harnesses.
  - Present PoCs to Nissan executives, effectively conveying technical solutions and project value.
  - Decision making: in-house fabrication vs external machine shop based on project timeline.
  - Created modular PCBs to enable rapid prototyping and reduce development time. 🔗
  - Designed and welded custom metal housings and enclosures.
- Programmed a ground-up solution for a manufacturing process using Python and OpenCV.
- Developed Python scripts with GUIs to streamline material invoicing and disengagement logs.
- Prototyped a consumer product device that interfaced with an electric vehicle's charging port.
- Enabled new in-car services via CAN or by altering sub-systems programmed by microcontroller (C++).

Freelance Engineer | San Francisco | 2021 - Present

- **Robot and Motor Assemblies for Art Exhibit | March - May 2024**
  - Engineered a motorized robot for continuous operation on a wire over several months. 🔗
  - Designed and fabricated rechargeable electric motor assemblies for large rotating discs. 🔗
- **NFT Image Generator | Python | October - November 2021**
  - Created software that uses split PC processing to generate 1000s of unique NFT images. 🔗

Additional Projects

Supercapacitor and BMS Integration | BSME Senior Project | 2018 - 2019

- Integrated supercapacitors into an electric locomotive powertrain. 🔗
  - Designed and prototyped the electric control system.
  - Designed small scale PCB with cell voltage monitoring, current sensing and I2C communication.
  - Connected students with vendors and OEMs to significantly reduce component cost.

Education:

Bachelors in Mechanical Engineering | San Jose State University | 2019