Peter Tran

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Education

Rutgers University – BS in Electrical and Computer Engineering – 4.0 **May 2024**

Stockton University – BS in Applied Physics – 4.0 **May 2022**

Work Experience

Maker Faire Volunteer, Open Sauce – San Mateo, CA **Aug 2025**

- Worked various jobs throughout Open Sauce to ensure an enjoyable experience for 70,000+ attendees, such as parking attendant, badge verifier, venue guide, set builder, line coordinator, and guest greeter
- Created vector-based LED-neon signs for Scare The Coyote exhibit using Fusion360
- Modeled and printed the Open Sauce mascot, SauceBot, capable of audio, articulating arms, and a 60,000V arc transmission made via Cockcroft-Walton voltage multiplier and arc lighter

Electronics and Design Engineer (Freelance), Chloë Bass – New York, NY **Oct 2023 – Dec 2024**

- Prototyped a light fixture to drive a 12V landscaping LED with periodic dimming capabilities with an ATtiny85 MCU and MT3608 boost converter to be driven at low power with an external battery pack via USB
- Developed an embedded system for PWM-based dimming between ATtiny85 and MT3608 over a 2N2222 NPN transistor to isolate power rails between the 5V MCU and 12V LED, maintaining sustainability of ATtiny85
- Designed and 3D-printed a conical housing to optimize stacking and maximize luminescence in a cylindrical enclosure
- Implemented a 0.1µF capacitor to reduce MT3608 voltage noise, improving circuit stability
- Revised project by replacing ATtiny85 with Arduino nano, improving brown-out resilience, and project sustainability

Projects

Pokeball Retro Arcade Emulator petr010.github.io/projects/pokeboy.html

- Embedded a retro game emulator into an upcycled Pokéball, raising 30,000 views on YouTube within the first month with the support of sponsor PCBWay, providing PCB and 3D printing services
- Open-sourced a fully exhaustive build guide consisting of B.O.M., PCB gerber files, 3D printable STL files, and visuals to assist in software and assembly processes, with 15 confirmed PCB orders

Moonshake-3D Headphones petr010.github.io/projects/moonshake.html

- Fabricated a functional set of headphones sponsored by JLCPCB and JLC3DP modeled after the renders made by CG artist Moonshake3D

Self-Driving Car petr010.github.io/projects/muppetMobile.html

- Secured 15th out of 45 teams at Rutger's ECE capstone event with a toddler's powerwheels car reconfigured to self-navigate for delivery and guidance purposes
- Reduced expected costs by a factor of 67 from a projected cost of $20,000 to a budget of $300 while maintaining SLAM generation through LiDAR and autonomous driving through ROS2 humble

Research Lead, NJ Governors STEM Scholars – Chatham, NJ petr010.github.io/projects/gss2.html

- Mentored team of 10 high school students within 7 months in engineering to develop a proof of concept for the 3D filament splicer, a 3D printer accessory to join leftover filament strands to reduce waste, achieving successful splicing of PLA filament between 125 and 160 degrees Celsius

Skills

EDA/CAD: KiCad, LTSpice, EasyEDA, Virtuoso, Fusion360, Onshape

Analysis: Transience Response, Failure Diagnostics, Reliability Testing, Power Electronics, Analog Electronics

Languages: C, C++, Python, MATLAB, Java, RISC-V

Microcontrollers and Microprocessors: Arduino, Teensy, ESP32, STM32, Raspberry Pi, Jetson Nano