Justin Peng

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Education

Georgia Institute of Technology (GT), Atlanta, GA
Bachelor of Science in Electrical Engineering

Work Experience

NavAbility Technologies, *Founder,* Atlanta, GA Sep 2022 – Present
Building the next generation of white cane for visually impaired individuals.

- Developed custom PCBs for a 3-wheel Kiwi drive system. Designed chassis and sensor mounts in SolidWorks and Fusion.
- Integrated Intel RealSense D457 depth camera, ESP32 microcontroller, and IMUs with Nvidia Jetson Orin Nano via high-bandwidth I2C/SPI to drive real-time collision avoidance and spatial mapping.
- Managing a pre-seed venture and pitching top investors. 30+ national and international awards totaling over $200K. First-author publication on Journal of Student Research. 2 USPTO Provisional Patents (No.63/560,754, No. 63/560,719).
- Named "2024's Brightest Young Innovators" by Hudson Weekly and featured on Crimson's 18 under 18 list. Featured on front cover of the Shaughnessy Magazine, June edition. Harvard Business School Foundry Startup Bootcamp June Cohort. Accepted into Y Combinator Startup School 2026. Ranked top 40 most impactful Canadian Youth Initiatives.

DLB Associates / Accenture, *Electrical Engineering Intern*, Atlanta, GA May 2026 – Present

- Supported design of critical power distribution infrastructure for global hyperscale and AI data center clients, including UPS systems, switchgear, PDUs, busway, rack-level power delivery, and redundancy architecture.
- Built an internal redundancy and source-failover analysis tool to evaluate UPS capacity, source utilization, N+1/N+N topology options, circuit group loading, and worst-case failure scenarios.

Rove, *Business Development Intern,* New York, NY June 2024 – August 2024
YC-backed startup (W24) developing a points-as-a-service fintech platform

- Directed a team to create a comprehensive pricing strategy for Rove Miles.
- Introduced a subscription-based revenue model that offers benefits like lower transaction fees, priority access to miles, and customized pricing to incentivize banks to commit to long-term partnerships

Honors

Stanford TreeHacks – Grand Prize Winner, Overall 2nd Place.

- #2 overall out of 1000+ competitors at the world's most prestigious and largest collegiate hackathon.
- Built Robosurge, an agentic AI surgical robotics platform enabling multi-arm autonomous control via custom inverse kinematics, RealSense-based 3D mapping, multi-model vision (SAM, YOLO, Gemini Robotics ER 1.5), and formally verified safety-constrained trajectories in Lean.

Yale YHack – Hardware Track Winner, 2nd Place.

- Built LeadMe, an AI-powered self-navigating robotic white cane designed to give visually impaired users real-time guidance.
- Implemented a real-time perception/control pipeline that classified obstacle zones from RGB-D data, generated arc-based avoidance maneuvers, and converted spoken destinations into route guidance using OpenStreetMap.

Canada Wide Science & Engineering Fair, 2x Gold Medalist, 2x Silver Medalist & Category Award

- Four-time national finalist and award recipient at Canada's largest youth STEM competition, recognized among ~400 top qualifiers nationwide for engineering and applied science innovation.

Skills

Hardware & Embedded: KiCad, I2C/SPI/UART, ESP32, IMUs, BLDC motor control, power distribution, soldering, oscilloscopes
Software: C/C++, Python, Java, Arduino IDE, Visual Studio Code, SolidWorks, Fusion 360, Revit, AutoCAD

Activities

Robojackets | Electrical Team Member August 2025 – December 2025

- Developed a Robot Shell ID system for 6 autonomous RoboCup robots using a custom PCB integrated with a Teensy 4.1 microcontroller.
- Designed a compact PCB in KiCad utilizing 5 TCS34725 RGB sensors, an I2C multiplexer (MUX) for bus arbitration, and an LDO-based 3.3V power delivery system with reverse-polarity protection. Implemented hardware-level debugging infrastructure, including I2C pull-up resistors and debug headers to ensure signal integrity across high-speed data lines.