Abel Wang

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EDUCATION

The University of Texas at Austin – Austin, TX **May 2028**

- Bachelor of Science in Electrical and Computer Engineering, Honors – Integrated Circuits Track | GPA: 3.94
- Coursework: Electromagnetic Engineering, Circuit Theory, Digital Logic Design, Embedded Systems, Software Implementation

TECHNICAL SKILLS

- **Design & Programming:** KiCad, LTSpice, TI Code Composer Studio, AMD Vivado, Verilog, C, C++, ARM Assembly, Python
- **Laboratory:** Oscilloscope, soldering, multimeter, logic analyzer, spot welding
- **Documentation:** Git/GitHub, LaTeX

EXPERIENCE

Longhorn Racing – *Powertrain Engineer* **Aug 2025** – **Aug 2026**

- Designed, fabricated and assembled vehicle powertrain electrical hardware, including spot welding SigmaClad cell busbars and integrating contactors and battery protection PCBs into a 120 V HV battery.
- Modeled and 3D-printed electrical enclosures, PCB mounts, and support hardware in SolidWorks.
- Presented and defended designs at technical reviews and collaborated across electrical and mechanical teams to resolve packaging, integration, and weight constraints.

UNT Department of Physics – *Modern Physics Lab Assistant* **Aug 2024** – **May 2025**

- Configured instrumentation for senior-level laboratory experiments involving electromagnetism, solid-state physics, and optics.
- Calibrated experimental setups for electron charge-to-mass measurement, Bragg diffraction, and single-photon interference.
- Quantified experimental error bounds through statistical uncertainty analysis and synthesized experimental results in 10+ technical laboratory reports.

Aerospace Construction and Engineering Society – *Logistics Director* **Feb 2024** – **May 2025**

- Directed engineering workshops and launch testing, achieving a club-record 10-point competition flight.
- Simulated flight trajectories using OpenRocket to meet American Rocketry Challenge payload and altitude parameters.

UNT Department of Mathematics | Dr. Lior Fishman's Group – *Game Theory Researcher* **May 2024** – **May 2025**

- Developed C++ simulations to iterate through pursuit strategies and over 1000 game states in Cops and Robbers and Chomp.
- Derived and proved an upper bound for an n × n grid and presented the results at UNT STaRS and the TAMS Research Seminar.

PROJECTS

Custom 24 V LV Supplemental Battery – *Longhorn Racing* **Sep 2025** – **Jan 2026**

- Led end-to-end development of a 24V, 4.2 Ah (20S NiMH) battery for the vehicle ignition sequence.
- Selected cells, fusing, connectors, thermistors, and nickel bus bars and analyzed I^2R losses for 15 A operation.
- Designed and routed a KiCad thermistor and pack-voltage monitoring PCB interfacing with the battery-protection system.
- Produced PCB BOM, Gerbers, and fabrication files, then assembled, soldered, and validated the completed board.
- Engineered a space-optimized SolidWorks 98 × 148 × 65 mm cell frame and enclosure, featuring bus-bar guides and sliding mount rails.
- 3D-printed model prototypes, presented at design reviews, and performed continuity, voltage, thermal, fit, and load testing.

Pump Track Pro – *Real-Time Embedded Systems Game* **Apr 2026** – **May 2026**

- Programmed a skateboarding game in C/C++ on a TI MSPM0G3507 LaunchPad, managing game-state logic, timed hardware interrupts, and graphics rendering.
- Designed and breadboarded the peripheral mixed-signal circuitry, integrating a color LCD, positive-logic push-buttons, and DAC-driven audio output.

HONORS

- **USAPhO Semifinalist (Top 500 Nationwide)** | *American Association of Physics Teachers* **Feb 2024**
- **Jerry R. Junkins Memorial Scholarship Recipient (1 of 21 in Texas)** | *Texas Instruments* **Sep 2024**
- **4-Time President's List (4.0 GPA over 4 Semesters)** | *University of North Texas* **May 2025**

ADDITIONAL

- **Languages:** Mandarin Chinese (fluent), Spanish (basic) | **Work Authorization:** U.S. Permanent Resident