

NICKLAS DI TIRRO

Austin, Texas 78705 • (720) 705-3075 • njdt9758@gmail.com • www.linkedin.com/in/nicklas-di-tirro

EDUCATION

University of Texas at Austin – Austin, Texas

August 2023 – May 2027

Bachelor of Science in Electrical and Computer Engineering

GPA: 3.83

- **Relevant coursework:** Computer Architecture, Software Design and Implementation II, Embedded Systems, Digital Logic Design, Algorithms, Discrete Mathematics, and Linear Algebra.
- **Languages:** C/C++, Java, Python, Verilog, Visual Basic, HTML, JS, Kotlin, Git
- **Tools & Hardware:** FPGA Development, Linux, PCB Design (KiCad), MQTT, oscilloscopes/logic analyzers

WORK EXPERIENCE

AmplifAI – Product Development Intern

May 2026 – August 2026

- Analyzed production LLM prompts token-by-token and identified that the evaluation rubric was roughly 90% of input-token cost, pinpointing the highest-leverage optimization target.
- Validated a rubric serialization change through matched-pair A/B tests at production scale, cutting input-token cost about 21% with no loss in output accuracy across replicated trials.
- Built offline Python tools to emulate production pricing and stage repeatable A/B experiments against a live GPU inference endpoint without touching production systems.
- Characterized inference throughput, latency, and cost across model and configuration changes, distilling findings into executive-facing recommendations on where to spend GPU budget.

Birch Hill LLC – Software Engineering Intern

June 2025 – August 2025

- Rewrote load and moment calculations for steel connections in Python, cutting analysis runtime 30% and eliminating a recurring manual reconciliation step.
- Automated the generation of documentation to verify the calculations, reducing manual effort by 90% while improving the consistency and clarity of produced reports.
- Built a Visual Basic tool unifying quoting and calculation workflows, replacing two separate processes used daily by the engineering team.

PROJECTS

Computer Simulation in C

- Built a full computer simulation from scratch in C: assembler, instruction and cycle-level simulators, and a microcoded pipelined simulator supporting virtual memory, interrupts, exceptions, and unaligned access.

IoT Smart Alarm Clock

- Built a Wi-Fi-enabled TM4C alarm clock with timer modes and harmony/melody generation, using an MQTT broker for remote control from a browser-based HTML/JS interface.

Minecraft Jukebox

- Designed and built an RFID jukebox on a TM4C microcontroller with a custom PCB. Streamed WAV audio from an SD card to dual SPI DACs using a 22 kHz timer interrupt with double-buffering, with NFC-tagged disks selecting tracks.

LEADERSHIP EXPERIENCE

IEEE University of Texas at Austin – Internal Events and Activities Officer

May 2024 – May 2025

- Planned and oversaw social events, general meetings, workshops, and intramural sports teams formed with IEEE organization members, fostering a consistent population of attendees, averaging 80 members per event.
- Contributed to weekly meetings with the officer team as well as sub-teams, clearly communicating expectations for upcoming events to ensure that they are executed smoothly.
- Mentored an “Officer in training” in all the role’s responsibilities, reinforcing the officer team with another qualified candidate and securing future leadership for the program.

ADDITIONAL

- **Honors:** National Merit Finalist (2023), FTC Robotics State Champion (2022)
- **Work Eligibility:** Eligible to work in the U.S. with no restrictions.