Claire Cizdziel

claire.cizdziel@columbia.edu | https://www.linkedin.com/in/claire-cizdziel/ | (662) 715-8162

EDUCATION

Columbia University, *Class of 2025* New York, NY

- B.S. Electrical Engineering, Minor in Computer Science, GPA: 3.5
- Circuit Design & Analysis concentration. *Relevant Coursework*: Data Structures in Java, Embedded Systems (developed GameBoy hardware emulator w/ FPGA), Robotics Studio (designed and built quadrupedal walking robot)

EXPERIENCE

Office of Space Launch Technical Intern, *National Reconnaissance Office* *Jun – Aug 2024*

- Developed strategic implementation plan for OSL Advanced Programs Branch. Surveyed advanced programs personnel to create timeline of missions, studies, outreach, and future capabilities - proficient in Milestones Pro and Microsoft Project
- Engaged in meetings on electromagnetic spectrum flight capabilities to understand RF testing and detection procedures.
- Conducted site visits at Cape Canaveral and Vandenberg Space Force Bases. Met with personnel to understand launch operations, and toured launch complexes and payload processing facilities to learn technical aspects of launch missions.

Electrical Engineering Intern, *In Orbit Aerospace* *Jun – Aug 2023*

- Designed, printed, and assembled 2 circuit boards, each connecting 3 sensors, 3 motor drivers, and a microcontroller to autonomously perform cargo exchange to facilitate in-orbit raw material transfer for space manufacturing.
- Constructed 3D-printed prototype components and manufactured a large-scale 4-foot functional cargo-transfer model.
- Developed and tested software to initiate and execute both manual and autonomous cargo transfer protocols in C++
- Awarded internship through the Zed Factor Fellowship (fellowship program for aspiring aerospace professionals)

Software Engineering Intern, *Medtronic* *Jun – Aug 2022*

- Developed integration testing software for on-market surgical device in Minimally Invasive therapies R&D Software Team.
- Coded and implemented a function in C++ to calculate and correlate 9 graphics changes to motor positions on an intelligent powered surgical Signia stapling system, which accurately updated screen graphics to phases of the surgical process.

AP Computer Science Teaching Assistant, *The Global Teaching Project* *Oct 2022 - Present*

- Teach AP CSP to a class of 15 high school students in rural Mississippi, where access to AP-certified teachers is limited.

ACTIVITIES AND PROJECTS

Columbia Space Initiative, *High-Altitude Balloons Mission Lead* *Sept 2023 - Present*

- Direct a team of 12 students to design, build, iterate, and launch an end-to-end high-altitude weather balloon to 100,000ft.
- Developed complex payload of GPS, camera, and 5 environmental sensors for data collection in the stratosphere. Created electronic diagrams and wiring schematic for components, integrated onto a functional protoboard for launch.
- Considerations: temperature regulation, reliable data collection, budget/funding, GPS location data for payload retrieval

Analog Filter Synthesis and Design EE4215, *Programmable Anti-Aliasing Filter* *Fall 2024*

- Designed and simulated a 6th-order, digitally programmable low-pass anti-aliasing filter in Cadence, using the Ackerberg-Mossberg topology, optimized for low power consumption with dual 1V supplies.
- Utilized 2-to-1 analog multiplexers for resistor values to program the passband response (Butterworth or Chebyshev) and select the 3dB cutoff frequency (150kHz or 300kHz), maintaining functionality with only three biquadratic filter stages.

Analog Electronic Circuits EE4312, *On-chip CMOS Feedback Amplifier* *Spring 2024*

- Designed an on-chip CMOS feedback amplifier to drive an oscilloscope input. Sized and simulated an 8-transistor OTA to meet specifications of total current and DC gain, ensured all design specs and reliability targets met.
- Performed extensive simulations in Cadence to characterize the amplifier's performance, including operating point, frequency response, stability, DC transfer function, and step responses, using OTA schematic and 3 testbenches.

Columbia China Dance Team, *Dancer and Press Director* *January 2022 - Present*
Columbia Society of Women Engineers, *Board Member and Mentorship Committee* *Oct 2022 – Present*
Columbia IEEE, *Chapter member and attendee of IEEE Rising Stars Conference 2025* *Sept 2023 – Present*

SKILLS & INTERESTS

Proficiency: Cadence, AutoDesk EagleCAD, Solidworks, Java, Python, Milestones Pro, Lab equip (oscilloscope, multimeter, pwr supply)

Interests: sustainable space exploration, robotic servicing, hardware testing, prototyping, on-orbit maneuvering and refueling