

Dmitriy Pautov

dpautov2@illinois.edu | 847-505-2215 | linkedin.com/in/dmitriypautov/

PROFILE

Physics and Electrical Engineering student at the University of Illinois Urbana-Champaign with internships at SpaceX and Shield AI. Well-versed in the full hardware engineering cycle, from conceptual and design reviews to bring-up, DVT, qualification, reliability testing, and production. Technically excellent, with a track record of producing PCBs across diverse areas of electrical engineering, including power, mixed-signal, analog, and digital circuits. Hard-working and a quick learner, able to tackle complex technical challenges across disciplines.

WORK EXPERIENCE

Shield AI

Aug 2025 – Dec 2025

Hardware Engineering Intern

Dallas, TX

- Respun the V-BAT ViDAR system PCBA, delivering a production-ready hardware revision with resolved bugs, improved reliability, and more manufacturability. Enabled 400%+ increased area scanning coverage autonomously.
- Implemented and validated high-speed interfaces (MIPI CSI-2, GbE, PCIe) on an NVIDIA Orin NX platform.
- Executed hardware bring-up, debugging, qualification, and HALT/HASS stress testing for reliability feedback.

SpaceX

May 2025 – Aug 2025

Starlink Hardware Engineering Intern

Bastrop, TX

- Designed a production-ready 3-phase BLDC motor controller for next-generation gateway hardware using Siemens Xpedition: selected components and vendors, held design reviews, and wrote documentation.
- Demonstrated GPS-independent network timing using PTP over fiber spools, supporting future savings of \$2M+.
- Designed test PCBs for connector and backlight characterization, improving confidence in long-term reliability.

University of Illinois Urbana-Champaign

Jan 2025 – May 2025

CS124 Tutor

Urbana, IL

- Tutored 30+ students in Java & OOP fundamentals; created instructional videos for the online curriculum.

Northwestern University, Gabrielse Group

Jun 2023 – Aug 2023

Physics Research Assistant

Evanston, IL

- Developed STM32H7-based controller for RF attenuator and custom Ethernet driver, achieving sub-1 Hz DSP filtering. Increased electron lifetime in experiment, leading to more precise measurement.

SELECTED PROJECTS AND ACTIVITIES

UIUC EV Concept Car

Aug 2024 – Present

Electrical Project Lead

Urbana, IL

- Designed a 3 kW, 48 V BLDC motor controller with regenerative braking and 30A overcurrent protection.
- Led a team of 5, conducted workshops, recruited members, and achieved runner-up for Carbon Footprint Reduction at Shell Eco-Marathon for technical innovation.

Managed 7-Port 100Base-T Switch

- Designed and integrated a 7-port 100Base-T switch using dual KSZ8895 ICs with MagJack connectors.
- Allowed for management using a networked STM32H7, managing via SPI for configuration and monitoring.

SKILLS

Design & Simulation: LTspice, Xpedition, KiCAD, Altium, Fusion 360

Electronics: Analog Circuit Design, RF Circuit Design, High-speed digital design, Test equipment

Programming: C, Python (NumPy, SciPy, matplotlib), STM32CubeIDE, LabVIEW, Linux, Bash

EDUCATION

University of Illinois Urbana-Champaign

Expected May 2027

B.S. in Physics, B.S. in Electrical Engineering

GPA: 4.00