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Katelyn M. Schoedl
Electrical Engineer | Research Coordinator

Electrical engineer and research coordinator with experience in hardware design for high-speed digital communication, photonic systems, and academic research processes for geophysical science applications.

My background includes avionics sensor design at Amazon, signal integrity engineering at Microsoft, and academic research coordination for geophysics and environmental sensing groups at the University of Washington. I am interested in experimental design workflows, precision measurement systems, and field operations for high-quality scientific data collection. I am actively seeking roles in applied research and instrumentation alongside future graduate study at the intersection of hardware engineering, experimental physics, and geophysical sciences.

Education

Bachelor of Science in Electrical Engineering   **August 2015 – May 2019**
University of Illinois at Urbana–Champaign   *Champaign-Urbana, IL*
- Relevant coursework: Electromagnetics, Signal Processing, Semiconductor Physics, Analog and Digital Circuits, IC Theory & Fabrication.
- Internships: GE Global Research (Summer 2016 & 2017), Amazon (Summer 2018).
- Exchange Semester: Technical University of Denmark (Autumn 2017).

Technical Experience

Research Coordinator (Photonics)   **May 2024 – May 2025**
University of Washington, College of the Environment, Department of Earth & Space Sciences   *Seattle, WA*
- Supported deployment, operation, testing, and maintenance of photonics-based Distributed Acoustic Sensing (DAS) data acquisition systems for seismic, oceanic, and cryospheric research.
- Coordinated technical activities with external research partners and funding agencies; acted as operational liaison between research groups and departmental administration by managing procurement, inventory, shipping, and customs documentation.
- Developed and maintained experimental system workflows for large-volume data management, metadata documentation, and technical reporting across multi-institution collaborations; maintained project websites and supported data dissemination platforms.
- Supported safety and logistical planning and permitting for remote field deployments and instrumentation campaigns.
- BOAT Ocean Acoustics Workshop, University of Washington (2025): Two-day intensive workshop on experimental acoustics theory.

Hardware Engineer II (Signal Integrity)   **September 2021 – September 2023**
Microsoft, Cloud AI Hardware and Advanced Signal Engineering   *Seattle, WA*
- Modeled and analyzed end-to-end signal integrity performance across FPGA die, packages, connectors, and board-level interconnects.
- Conducted high-speed hardware validation and SI characterization for enterprise AI and cloud infrastructure platforms.
- Performed electromagnetic and circuit-level simulations using tools such as ANSYS HFSS and Keysight ADS.
- Supported board-level stackup design, routing constraints, and interference mitigation strategies to resolve system integration issues.
- Executed laboratory measurements, including S-parameters and eye-diagram analysis, using VNA and time-domain methods.
- Supported contract PCB design reviews and monitored progress through manufacturing readiness.
- DesignCon, Santa Clara, CA (2022): Industry conference on high-speed signal integrity measurement and PCB manufacturing.

Hardware Design Engineer (Satellite Avionics)   **April 2020 – September 2021**
Amazon, Project Kuiper   *Seattle, WA*
- Supported early-phase (pre-PDR) satellite avionics sensor subsystem design and development.
- Authored design review documents and test validation for electrical, thermal, and mechanical performance.
- Defined early avionics sensor requirements from component to system level.
- Designed and reviewed schematics, PCB layouts, and housings for sensor prototypes.
- Performed board bring-up, debugging, and validation.
- Supported hardware radiation test campaigns.

Skills

Communication	**English** (native), Spanish (A2), French (beginner)
Programming	Python, C/C++, MATLAB, JavaScript, LaTeX, Markdown
Development	Git, Jupyter, Linux (Bash/Shell), Microcontrollers, ArcGIS, Docker, HW/SW RAID storage, HPC remote systems
Instrumentation	Distributed Acoustic Sensing (DAS), Data Acquisition Systems (DAQ), Noise Characterization, Sensor Calibration, Signal Integrity Analysis, Channel Simulation, Schematic Design, PCB Layout, Cyclotron Hardware Radiation Effects Testing
Field Operations	Hands-on system deployment, field logistics coordination, remote system monitoring, experimental setup and testing, test planning, data management, technical documentation, American Mountain Guides Association (AMGA) Professional Member

Certifications
- Wilderness First Responder (WFR) with AED and CPR Certification, Yosemite, CA (November 2025)
- AIARE 1 Avalanche Training Certification, Skyward Mountaineering, Silverton, CO (December 2025)
- Avalanche Companion Rescue Training, Alpine Ascents International x SheJumps, Snoqualmie, WA (January 2026)