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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   *Urbana, IL*

- Relevant coursework: Electromagnetics, Signal Processing, Device Physics, Circuits, Experimental Measurement
- 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, and maintenance of photonics-based Distributed Acoustic Sensing (DAS) and 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, customs documentation, and field logistics.
- Supported safety planning and permitting for remote field deployments and instrumentation campaigns.
- Developed and maintained experimental workflows for large-volume data management, metadata documentation, and technical reporting across multi-institution collaborations.
- Maintained project websites and supported data dissemination platforms.

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.
- Executed laboratory measurements, including S-parameters and eye-diagram analysis, using VNA and time-domain methods.
- Collaborated with electrical, mechanical, and systems engineering teams to resolve SI and system integration issues.
- Supported contract PCBA design reviews and monitored progress through manufacturing readiness.

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.

Technical Program Manager (Robotic Automation Prototypes)   June 2019 – March 2020
Amazon, Worldwide Technical Engineering Services   *Seattle, WA*

- Supported nationwide deployment of PLC-based robotic automation prototypes across fulfillment centers.
- Managed schedules, logistics, and readiness planning for pilot programs.
- Coordinated on-site installations, commissioning, and documentation with engineering and operations teams.
- Tracked development milestones through production and operational handoff.
- Supported standardization of risk reviews and vendor evaluations.

Skills

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

Activities

Professional Affiliations & Certifications

- Washington State Rare Plant Monitor
- American Mountain Guides Association (AMGA), Professional Member
- American Alpine Club (AAC), Member
- Boeing Alpine Society (BOEALPS), Member
- Wilderness First Responder (WFR) with AED and CPR Certification
  {{ National Outdoor Leadership School (NOLS) - Yosemite, CA (December 2025)}}
- AIARE 1 Avalanche Training Certification
  {{ Skyward Mountaineering - Silverton, CO (December 2025)}}
- Avalanche Companion Rescue Training
  {{ Alpine Ascents International x SheJumps - Snoqualmie, WA (January 2025)}}

Field & Alpine Activities

- Alpine climbing, skiing, and cross-training; prospective AMGA Alpine Guide
- SnowGoat Skimo Volunteer for Vertfest and Wy'Easter sanctioned ski mountaineering races
- Experience planning safety, navigation, logistics, and remote system management for field exploration in diverse environments

Conferences & Workshops

- BOAT Ocean Acoustics Workshop, University of Washington (2025) Two-day intensive workshop on ocean acoustics theory and experimental practice
- DesignCon, Santa Clara, CA (2022) Industry conference on high-speed signal integrity, measurement-driven hardware, and PCB manufacturing