

Anders Pearson

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EXPERIENCE

Sensor Systems Laboratory, Paul G. Allen School of Computer Science & Engineering, Seattle, WA Nov 2024-Current

Research Assistant

- Researching RF signal processing with Prof. Joshua Smith and PhD student Paolo Torrado
- Developed a novel, physics-informed deep learning framework in PyTorch to predict wireless network coverage on the moon through Radio Maps for the NASA LunaNet program.
 - Website: <https://radiolunadiff.github.io>
- Designed and implemented a triplet-U-Net architecture with a Denoising Diffusion Probabilistic Model (DDPM) to refine signal predictions by modeling wave propagation based on the Helmholtz equation.
- Engineered a complete data generation pipeline using Python, creating a high-fidelity dataset of 65000 maps by generating synthetic lunar terrains and simulating radio propagation with the NVIDIA Sionna ray-tracing engine
 - Github: <https://github.com/anderspearson206/LunarTerrainGenerator>
- Conducted comprehensive experiments and ablation studies, demonstrating that the proposed model consistently outperforms existing baselines across standard metrics (SSIM: .9068).
- Authored and submitted a research paper detailing the framework and findings to the IEEE ICASSP 2026 conference.
 - Paper: <https://www.arxiv.org/pdf/2509.14559.pdf>

WiBotic Inc., Seattle, WA

Software Engineering Intern

June – Sept 2023

- Developed a C/C++ program for ESP32 microcontrollers to transmit CAN data via Ethernet/WiFi. The app includes a universal C library for Socketcan protocol and an Arduino program for handling CAN data transmission over the CAN bus and network. Contributed to the Pycyphal python library adding functionality for the Socketcan CAN interface.
 - https://github.com/wibotic/socketcan_translate
 - <https://github.com/OpenCyphal/pycyphal/pull/306>

EDUCATION

University of Washington, Seattle, WA

Sept 2022 – Current

Master of Science (M.S.), Electrical Engineering

Expected June 2027

Bachelor of Science (B.S.), Electrical and Computer Engineering

Expected June 2026

GPA: 3.86/4.0

Concurrent B.S./M.S. Program

Relevant Coursework: Artificial Intelligence, TinyML, Network Security and Cryptography, Robotics, Digital Signals and Filtering, Digital Circuits and System, Advanced Signal Processing, Network Architecture, ML for Signal Processing, Data Structures and Algorithms, C and C++ Programming, Natural Language Processing (NLP), Random Signals for Communications

TU Berlin, Berlin, Germany

July 2024 – Aug 2024

Summer Exchange Program, RASF Scholar

GPA: 4.0/4.0

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, C, Java, Bash
- **ML Frameworks & Libraries:** PyTorch, TensorFlow, TensorFlow Lite, Scikit-learn, NumPy, Pandas
- **Developer Tools:** Git, Linux, Docker, Windows PowerShell, CUDA, Apptainer
- **Hardware & EE:** Microcontrollers (ESP32, Arduino), Embedded Systems, CAN bus, Socketcan, RF Signal Processing, Digital Circuits, NVIDIA Sionna (Ray-Tracing), Fuzzing, Verilog

LEADERSHIP

Tau Kappa Epsilon Chi Chapter, Seattle, WA

Vice President/Head of Risk Management

Dec 2023 – April 2025