Luke Pitstick

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Education

University of Colorado Boulder Aug. 2024 – May 2028
Bachelor of Arts in Data Science and Political Science *Boulder, CO*

Work Experience

WattByte Nexus June. 2026 – Present
AI/ML Research Intern *Golden, CO*

- Design and implement custom physical AI systems to predict and prevent wildfires caused by the power grid.
- Leverage PyTorch to develop power grid and environment simulations to reduce computation time by 70% compared to classical simulation methods.
- Develop end-to-end digital twin power grid representations to represent power systems for visually for end users.

National Atmospheric & Oceanic Administration Oct. 2025 – Present
Junior Data Manager *Boulder, CO*

- Process 10TB+/week of ocean acoustic data through batch ingestion, validation, and cloud archival pipelines (Python, Oracle DB, AWS S3).
- Maintain end-to-end sonar data workflows ingesting water column and passive acoustic data from NOAA research vessels into NCEI's national archive.
- Develop Python tools to automate QC and enforce metadata standards across oceanographic data submissions to NOAA/NCEI.

Ranked Choice Voting for Longmont Aug. 2025 – Dec. 2026
Data Science Intern *Boulder, CO*

- Engineered high-resolution demographic maps in ArcGIS, R, and Python, enabling campaign teams to identify turnout gaps and execute targeted outreach.
- Developed fixed-effects regression models to predict voter turnout, allowing the campaign team to make targeted decisions.

Leadership Experience

University of Colorado Student Government May 2025 – May 2026
Representative-at-Large & Press Secretary *Boulder, CO*

- Supported allocation of a $36M student budget across 12 cost centers, coordinating with university administrators to ensure equitable fund distribution.
- Led a 6-person team to increase student engagement across social media channels by 15%.

Projects

Pogi | *Python, OpenAI Agent SDK, Next.js, AWS, Vercel* May. 2026 – Present

- Developed AI agents with the OpenAI Agents SDK to automatically generate personalized study plans, course maps, and homework guides from Canvas course data, helping students save 5+ hours per week.
- Deployed hosted AI workflows with AWS Bedrock, enabling scalable assignment planning, deadline tracking, and course resource organization.
- https://github.com/Luke-Pitstick/pogi

InfraDrone | *Python, Computer Vision, C++, PyTorch, TensorRT* April. 2026 - Present

- Designed and built an autonomous drone + ground station using a Jetson Orin Nano, MAVLink, and TenosrRT to enable customers to easily deploy and conduct road damage surveys offline.
- Developed a large scale pipeline to detect, classify, and calculate the severity of road damage using augmented YOLOv26 models resulting in a 80% precision and 75% mAP@50.
- Implemented a temporal engine to determine how much cracks have grown over time using YOLO segmentation models and custom GPS based algorithms.
- https://github.com/Luke-Pitstick/InfraDrone

Renewably | *Python, XGBoost, Polars, React, FastAPI* April 2026

- Won 1st place at BlasterHacks 2026; Built an interactive renewable energy siting platform with React and ArcGIS.
- Trained an XGBoost model for site viability using large scale geospatial datasets. Achieved 96% accuracy when compared to real wind farm sites.
- Built a FastAPI optimization pipeline to evaluate thousands of candidate locations within user-defined regions.
- https://renewably-wind.onrender.com/

Technical Skills

Languages: Python, R, SQL, Typescript, Java
Frameworks/Libraries: Pandas, Polars, NumPy, Scikit-Learn, GGPlot2, Seaborn, React, FastAPI
Cloud/Databases: AWS, GCP, OracleDB, PostgreSQL, Modal, Render
Other: Bash, Linux, Git, Vim, ArcGIS