Ping-Chun Lin

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Professional Experience

Fujitsu Research of America, Converging Technologies Lab — Jan 2025 - Current

Research Scientist — Santa Clara, CA

- Developed multimodal diffusion models with curriculum and cascade training, boosting performance by **10%** and cutting inference time by **10%**; innovations led to a **USPTO patent** submission and **ACM publication**.
- Designed the interface and engineering-ready specifications for a geospatial AI platform featuring an interpretive agent translating model outputs into client-aligned decision support; partnered with engineers on integration and delivery.

Conservation International, Betty and Gordon Moore Center for Science — Jun 2024 - Jan 2025

Applied Scientist Intern — Seattle, WA

- Utilized Python and R to implement a data pipeline with Docker and AWS, reducing processing time by **97%** through optimized ETL scripts and parallel processing techniques.
- Co-developed machine learning models (XGBoost/GAM) for threshold prediction, expanding coverage from 13 to **500+** regions, enhancing relevance to global industries (e.g., agriculture), and enabling tailored decision-making for clients.

Global Innovation Fund, UW School of Environmental and Forest Sciences — Jun 2023 - Sep 2023

Machine Learning Developer — Seattle, WA

- Designed and developed an end-to-end pipeline with Python for object/change detection on satellite images using CNNs and Foundation Models with high accuracy, reducing **90%** of the training time and cost for manual labor.
- Co-authored a report to stakeholders about the performance of the model and utilizing machine learning techniques for climate change research.

University of Washington, Earth and Space Sciences & eScience Institute — Sep 2019 – Current

Graduate Researcher — Seattle, WA

- Developed and evaluated predictive ML models for multimodal time-series data using regularized regression and embedding-based representations, with rigorous validation on held-out data.
- Authored two first-author peer-reviewed domain papers (geospatial/planetary). Secured five competitive graduate research awards totaling **~$100K+** through successful proposal submissions.

Projects & Leadership

Expert-Guided Geospatial Object Detection Pipeline

- Improved recall on held-out data from 42% to **88%** by integrating expert verification into a human-in-the-loop pipeline.

Enhancing Fake News Detection Through Topic Modeling Techniques (CSE 547 ML for Big Data)

- Led a 4-person team; implemented NMF/LDA baselines and BERT fine-tuning for topic modeling & misinformation detection, improving accuracy by **3%** with <1h training.

microSWIFT (UW Applied Physics Lab)

- Co-developed a Raspberry Pi quality control pipeline and produced an open-source package on PyPI for collaborators and enthusiasts to access the research data from wave buoys for hurricane research.

UW Taiwanese Graduate Student Association (Executive Committee Chair, Jan 2021 - Jun 2023)

- Co-founded and led a team of 20+ members to organize events annually for graduate students and early-career professionals, including social events with the local community and career workshops with alumni.

Skills

- **Programming Languages:** Python (Tensorflow, PyTorch, sklearn), SQL, Java, R, MATLAB, HTML, CSS, JavaScript, Shell
- **Machine Learning:** Transformers, Foundation Models, LLM, Generative AI, Diffusion, Deep Learning, Prompt engineering, Optimization, Computer Vision, Embedding, Clustering, Time Series Forecasting, CUDA
- **Data Science & Tools:** Statistics, Data Visualization, Data Mining (Spark, MapReduce), ETL, EDA, Jupyter, Git, Unix/Linux, Docker, AWS (S3, EC2), React, Postgres, CI/CD, Tableau, SciPy Stack (numpy, scipy, pandas), GIS (GDAL, Rasterio, QGIS)

Education

University of Washington

PhD in Data Science & Earth and Space Sciences — Jun 2026
M.S. in Applied Mathematics — 2025
B.S. in Geophysics — 2019