

Andrew Ganse, PhD

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Summary

Applied ML scientist and team lead with 8+ years building production ML and evaluation systems, and 12+ years in data analysis and research. Skilled at turning ambiguous problems into measurable metrics and production models. Owns the full ML lifecycle from datasets, training, evaluation through deployment and monitoring, partnering with product and executive teams to define success and deliver customer impact.

Professional Experience

Senior Data Scientist, ThruWave Inc. *July 2020 – Mar 2026.*

- Led development of an end-to-end ML platform for algorithm development, experiment tracking, model training, evaluation, deployment, and monitoring for anomaly detection and classification on imaging data.
- Delivered 10+ production pilots at major corporations and government agencies, meeting strict system constraints on live conveyor systems and converting multiple deployments into revenue-generating customers.
- Led and mentored a 4-member data science team; improved delivery velocity ~50% via AI/coding agents, CI/CD improvements, and standardized ML workflows; worked with product/executive teams to define roadmaps.
- Shipped 16+ production models with stable performance under data drift and evolving customer environments.
- Designed evaluation frameworks and curated labeled benchmark datasets with statistically grounded acceptance criteria, used for model release decisions and customer sign-off.
- Developed methodologies around vision-language embedding models (e.g. OpenCLIP) for classification and eval.
- Lead inventor on granted patent for high-throughput anomaly detection in 3D millimeter-wave imaging systems.
- Tech: Python, OpenCLIP, Scikit-learn, PyTorch/TensorFlow, OpenCV, MLflow, AWS, Docker, PostgreSQL, dbt.

Data Scientist, Echodyne Corporation. *Dec 2017 – July 2020.*

- Owned and designed a scalable data labeling and evaluation platform for meta-materials radar, standardizing benchmark methodology across 100s of field tests and increasing evaluation cycle from monthly to weekly.
- Developed the company's first ML-based object classification capability for a production system, driving increased customer adoption of the system and its expanded implementation in follow-on versions.
- Partnered cross-functionally with product, engineering, and field teams to translate raw sensor data into actionable insights, directly influencing >10 feature releases.
- Designed and built machine learning pipelines for object detection and classification on automotive and drone focused radar data, enabling low-latency inference in deployed products.
- Tech: Python/Pandas, TensorFlow/Keras, Scikit-learn, PostgreSQL, Docker, MLflow, Airflow, RabbitMQ.

Principal Scientist, Anseres Research & Technology LLC. *Sept 2016 – Dec 2017.*

- Technical evaluation and advisory work for defense and space R&D programs, supporting federal contracts across sensing, signal processing, and estimation systems.
- Led development of SBIR proposal on deep learning approaches for clutter reduction in sonar systems.

Data Scientist, Spare5. *Jan 2016 – June 2016.*

- Produced scoring model that resulted in 8% lift in search-traffic to a customer's data in first few months of job.

Earlier Career: Senior Research Physicist, Applied Physics Laboratory, Univ. of WA. *1999 – 2015.*

- Applied research in wave propagation in random media, inverse problems, and sensors: acoustic oceanography, controlled-source electromagnetic sensing, spacecraft radio-science gravimetry.

Education

Ph.D. Geophysics, University of Washington: statistical inference, parameter estimation, inverse problems.

B.S. Electrical Engineering, University of Washington: nonlinear optimization and signal processing.

Selected Side Projects Built (see GitHub and research.ganse.org)

RAG_MLflow_eval: Langchain-based RAG evaluation with LLM-as-judge, logging datasets and traces to MLflow.

Semantic_SQL_examples: Semantic SQL using pgvector, ordering review comments along semantic axes.

Flow_models: Flow-based invertible neural networks implemented in TF Probability for synthetic image generation.