Andrew Lizarraga

CONTACT

Personal Email: drewrl3v@gmail.com
Homepage: https://drewrl3v.github.io/
LinkedIn: https://www.linkedin.com/in/andrew-lizarraga/
GitHub: https://github.com/drewrl3v
Google Scholar: https://scholar.google.com/citations?user=KUDS8uwAAAAJ&hl=en

ACADEMICS

University of California, Los Angeles (UCLA)
Ph.D. Statistics — Sep 2022 – Dec 2025

University of California, Santa Barbara (UCSB)
B.S. Mathematics — Sep 2014 – Jun 2018

SKILLS

Python, C++, CUDA, PyTorch, SQL, Git, Linux, AI/ML, Generative AI, Statistics

EXPERIENCE

Research Fellow - UCLA — Sep 2022 – Present

- Built large-scale modeling pipelines for diffusion and transformer architectures, enabling end-to-end training, evaluation, and statistical validation across 1M+ images and 10–20 TB multimodal datasets.
- Developed and optimized experimental workflows for hypothesis testing, regression modeling, uncertainty quantification, and distributional analysis in high-dimensional scientific applications.
- Implemented scalable data preprocessing and feature extraction pipelines, improving modeling throughput and experiment iteration speed by 40%.
- Designed reproducible statistical analysis frameworks used across 25+ collaborative publications in AI, astronomy, and medical imaging, supporting modeling, inference, and empirical evaluation.

Staff Researcher - UCLA Brain Mapping Center — Jul 2021 – Sep 2024

- Built ML and statistical workflows for fMRI/DTI/MRI modeling, including preprocessing, signal extraction, feature engineering, and predictive modeling on 50k+ scans (5–10 TB).
- Developed statistical evaluation pipelines for model comparison, cross-validation, and effect-size quantification, reducing analysis time by 35%.
- Implemented applied ML approaches for segmentation, clustering, and representation learning in 3D neuroimaging tasks, improving model performance via controlled experiments and data-driven diagnostics.
- Delivered analytical tools supporting clinical inference (atrophy rates, tract integrity, biomarker modeling), integrating ML outputs into production clinical workflows.

AdClick Data Scientist - Recruitics (Formerly KRT) — Nov 2018 – Jun 2021

- Built and maintained statistical modeling and analytics pipelines processing tens of millions of impressions and clicks, supporting campaigns with over $10,000,000 in annual ad spend.
- Developed predictive models and experimentation frameworks for CTR estimation, bidding optimization, and multi-channel attribution, improving decision quality across paid media operations.
- Designed A/B testing analyses, uplift models, and causal inference diagnostics to evaluate traffic quality and targeting strategies.
- Improved data reliability and latency via optimized ETL workflows and statistical anomaly detection, supporting real-time reporting for product and marketing teams.

SELECTED PUBLICATIONS

- **Andrew Lizarraga**, Eric Hanchen Jiang Jacob Nowack, Morgan Himes, Jonathan Soriano, Yun Qi Li, Ying Nian Wu, Bernie Boscoe, Tuan Do. *Modeling Galaxy Morphology Evolution Through Cosmic Time via Redshift Conditioned Diffusion Models* | *(In Review) - Astrophysical Journal*
- **Andrew Lizarraga**, Eric Hanchen Jiang, Jacob Nowack, Yun Qi Li, Ying Nian Wu, Bernie Boscoe, Tuan Do. *Learning the Evolution of Physical Structure of Galaxies via Diffusion Models* | *Neurips-MLP4S 2024*
- **Andrew Lizarraga**, Edouardo Honig, Ying Nian Wu. *From Stochastic Parrots to Digital Intelligence* | WIRES Computational Statistics 2025
- **Andrew Lizarraga**, David Lee, Antoni Kubicki, Ashish Sahib, Elvis Nunez, Katherine Narr, Shantanu H. Joshi. *Alignment of Tractography Streamlines Using Deformation Transfer via Parallel Transport* | *MICCAI - CDMRI 2021*
- **Andrew Lizarraga**, Brandon Taraku, Edouardo Honig, Ying Nian Wu, Shantanu H. Joshi. *Differentiable VQ-VAE's for Robust White Matter Streamline Encodings* | *IEEE - ISBI 2024*
- **Andrew Lizarraga**, Katherine L. Narr, Kirsten A. Donald, Shantanu H. Joshi. *StreamNet: A WAE for White Matter Streamline Analysis* | *PMLR - GeoMedIA 2022*
- Edouardo Honig, **Andrew Lizarraga**, Zijun Frank Zhang, Ying Nian Wu. *Better Prompt Compression Without Multi-Layer Perceptrons* | *Neurips-AFM 2025*
- Elvis Nunez, **Andrew Lizarraga**, Shantanu H. Joshi. *SrvfNet: A Generative Network for Unsupervised Multiple Diffeomorphic Functional Alignment* | *CVPR - DiffCVML 2021*
- Morgan Himes, Samiksha Krishnamurthy, **Andrew Lizarraga**, Srinath Saikrishnan, Vikram Seenivasan, Jonathan Soriano, Ying Nian Wu, Tuan Do *Multi-Modal Masked Autoencoders for Learning Image-Spectrum Associations for Galaxy Evolution and Cosmology* | *Neurips-MLP4S 2025*
- Vikram Seenivasan, Srinath Saikrishnan, **Andrew Lizarraga**, Jonathan Soriano, Bernie Boscoe, Tuan Do *Combining datasets with different ground truths using Low-Rank Adaptation to generalize image-based CNN models for photometric redshift prediction* | *Neurips-MLP4S 2025*
- Eric Hanchen Jiang, Yasi Zhang, Zhi Zhang, Yixin Wan, **Andrew Lizarraga**, Shufan Li, Ying Nian Wu *Unlocking the Potential of Text-to-Image Diffusion with PAC-Bayesian Theory* | *(In Review) ICLR 2026*
- Donghun Noh, Deqian Kong, Minglu Zhao, **Andrew Lizarraga**, Jianwen Xie, Ying Nian Wu, Dennis Hong. *Latent Adaptive Planner for Dynamic Manipulation* | CoRL 2025
- Jinxing Li, Jacob Bortnik, Qiushuo Wang, Yingnian Wu, **Andrew Lizarraga**, Mirana Angel, Beibei Wang, Qianzhuang Wen, Jeffrey Jiang *Modeling ring current proton distribution using MLP, CNN, LSTM, and transformer networks* | Frontiers in Astronomy and Space Sciences
- Deqian Kong, Dehong Xu, Minglu Zhao, Bo Pang, Jianwen Xie, **Andrew Lizarraga**, Yuhao Huang, Sirui Xie, Ying Nian Wu. *Latent Plan Transformer: Planning as Latent Variable Inference* | *NeurIPS 2024*
- Jie Ren, Xinhao Zheng, Jiyu Liu, **Andrew Lizarraga**, Ying Nian Wu, Liang Lin, Quanshi Zhang. *Monitoring Primitive Interactions During the Training of DNNs* | *AAAI 2025*