Eric Zhao

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EDUCATION

New York University   New York, NY
Master of Science in Data Science   *September 2024 – May 2026*
Courses: Intro to Data Science • Probability and Statistics • Optimization and Computational Linear Algebra •
Machine Learning • Natural Language Understanding • Big Data • Foundations of Finance

University of Washington   Seattle, WA
Bachelor of Science in Human Centered Design & Engineering (Academy Student)   *September 2020 – June 2024*
Courses: Inclusive Design • User-Centered Design • Interactive System Design • Data Visualization • UX Prototyping •
Human Computer Interaction • Data Structures and Algorithms • Database Systems in SQL • Computer-Aided Design

WORK EXPERIENCE

Applied Machine Learning Engineer Intern   September 2025 – April 2026
Shopify   *Bellevue, WA*
- Using extensive data to build products and create and fine-tune ML models

AI Data Science Intern   June 2025 – Present
Austal USA Advanced Technologies   *Charlottesville, VA*
- Deploying and testing local LLM on an Apple Mac Studio cluster leveraging MLX, enhancing retrieval-augmented generation for sensitive data handling
- Exploring vision-language action models to improve robotics applications in additive manufacturing

Graduate Research Assistant   February 2025 – Present
New York University, Kiani Neural Lab   *New York, NY*
"Neural Mechanisms Underlying Abstract Rule Learning and Generalization for AGI
- Processing and analyzing neural recordings to study brain activity from macaques in controlled behavior settings to develop AI algorithms to emulate how the brain learns from small samples
- Fine-tuning generative LLMs such as Stable Diffusion in Python to generate numerous synthetic Raven's Progressive Matrices tasks and images with custom rule-based transformations

Head Swim Coach   January 2022 – August 2024
Somerset Recreation Club, USA Swimming   *Bellevue, WA*
- Independently taught one-on-one personalized private lessons to swimmers aged 5 to 19, accommodating to all skill levels in order to improve confidence, technique, and speed as well as instilled passion and team culture as a leader
- Coached a summer league swim team of over 200 participants, organizing swim meets that fostered community engagement, leading in a 40% increase in repeat enrollments and referrals

PROJECTS

Scaling for Cultural Equity in VLMs | *Python, Transformers, Webscraping, Git*   January 2025 – May 2025
- Fine-tuned multiple open-source VLMs (LLaVA, OpenCLIP, MobileVLM) on subsets of LAION dataset using high-performance computing environments to assess impact of various finetuning dataset sizes on cultural bias
- Designed experiments comparing zero-shot and fine-tuned model performance using Visual Question Answering (VQA) tasks, and evaluating models' cultural sensitivity using significance tests

Swimming Stroke Classification | *Python, Jupyter Notebook, Machine Learning*   November 2024
- Developed a hybrid CNN-LSTM deep learning model that achieved 96%+ AUC in classifying 8 swimming strokes and phases from temporal inertial measurement unit (IMU) sensor data
- Engineered 9 features and reduced dimensionality to 26 principal components using PCA, class weight balancing, and k-fold cross-validation, improving accuracy from 88% to 93% with Random Forest
- Benchmarked LR, RF, XGBoost, and CNN-LSTM models on ROC-AUC, precision, recall, and f1-score metrics

SKILLS

Languages: Python, SQL, R
Frameworks: Spark, PyTorch, TensorFlow, Keras, Hadoop
Tools: Git, Jupyter Notebooks, Google Collab, Cursor, Anaconda, Azure, Excel, PowerBi, Tableau, Figma
Libraries: scikit-learn, pandas, NumPy, Hugging Face Transformers, Seaborn, Matplotlib