Liam Toran

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WORK EXPERIENCE

Nav   *San Francisco, CA*
Staff Data Scientist   **June 2023 - Present**
- Architected a Transformer-based time-series forecasting for users' financial health, serving 2M+ monthly real-time predictions with sub-$300 error rates.
- Developed and productionized end-to-end ML system for industry classification using NLP, unlocking key attributes for 93% of users and driving improved targeting, personalization, and referral revenue.
- Built model monitoring and applied phased rollout and A/B testing, successfully launching 5 major features.
- Revamped models with confidence intervals and explainability, driving increased user trust and stakeholder adoption.
- Collaborated cross-functionally with product, engineering, and lead stakeholders to define ML roadmap and drive business decisions through data-driven insights.

Flowcast   *San Francisco, CA*
Senior Data Scientist   **March 2022 - June 2023**
- Spearheaded a bank transaction classification system using weak supervision, natural language processing, and deep neural networks, outperforming market-leading provider (Plaid API) by 21% [published on arXiv].
- Engineered and fine-tuned bimodal time series plus text embeddings for unstructured transaction data, improving F1-scores by 13% across 9 classification tasks.
- Designed and implemented scalable pipeline architecture for ML projects, leading to 10x performance improvement.
- Mentored 2 junior data scientists and conducted technical interviews to support team growth.

Data Scientist   **January 2020 - March 2022**
- Created and deployed production ML risk model for ING bank, currently scoring 3M+ clients monthly with Spark and XGBoost for the last four years uninterrupted.
- Reduced error rate by 47% of Nike's dispute resolution model through advanced feature engineering and Bayesian optimization, significantly impacting a multi-million dollar funnel.

UCSD - Biomedical Research Institute - Knight Lab   *San Diego, CA*
Machine Learning Researcher, Internship   **May 2017 - September 2017**
- Published peer reviewed research explaining bias in dimensionality reduction algorithms, cited by 86+ papers [article].
- Presented technical findings to 55+ research scientists at UCSD conference.

EDUCATION

École Normale Supérieure de Lyon   *Lyon, France*
Masters degree in Mathematics, BS in Mathematics   **2017 - 2019**
- Top 0.5% nationwide ranking in competitive exams to enter ENS (french ivy-league) with a scholarship.
- Extensive coursework in ML, Statistics, Computer Science, and Mathematical Foundations.

SKILLS

Machine Learning: Deep Learning · NLP · Weak Supervision · Transformers · LLMs ·Unsupervised Learning · Generative Models · Interpretability & Explainability · Uncertainty Quantification · Multi-Armed Bandits · Bayesian Optimization · Time Series · Classification · Clustering · Statistical Modeling · Neural Networks
Software Development: Python (pandas, numpy, scikit-learn) · PyTorch · PySpark · Ray · SQL · Git/GitHub · DVC · TensorFlow · Docker · Airflow · DBT · Snowflake · Redshift · Databricks · AWS (S3) · Azure · GCP
Current Projects: flippers, an open source library for weak supervision. See liamtoran.com.