TYLER LEAKE

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EDUCATION

Johns Hopkins University, Master of Science (M.S.) in Computer Science (Machine Learning Focus)   Baltimore, MD
- GPA: 3.71 / 4.00   MAY 2023 – MAY 2025

Pennsylvania State University, Bachelor of Science (B.S) in Finance   University Park, PA
- GPA: 3.64 / 4.00   AUG 2016 – MAY 2020

EXPERIENCE

LoanStreet (Startup Company)   New York, NY
Data Analyst   APR 2021 – APR 2024
- Joined SaaS FinTech startup as one of its original 50 staff members reporting directly to the COO and CEO. Managed technical and non-technical projects spanning platform operations, software development, product management, corporate growth, financial planning, and capital fundraising.
- Successfully launched two enterprise software applications: *Loan Analytics* and *Commercial Loan Servicing*. Responsible for testing and validating product designs, deploying software to automate integration workflows (Python and Java) and streamlining post-integration platform analytics.
- Developed and maintained data pipelines (Python, R, PostgreSQL) to extract and transform large, unstructured datasets on fixed-income portfolios and corporate financial statements. Extensively analyzed such data to create quantitative and qualitative research that guided new product initiatives.

UBS Securities   New York, NY
Investment Banking Analyst   JUL 2020 – APR 2021
- Advised corporations and financial sponsor clients on mergers, acquisitions, capital markets fundraising, and other structured finance transactions.
- Extracted and processed raw financial market data (Excel, Python, and SQL). Performed exploratory data analysis; developed financial models (DCF, M&A, and LBO); and created data visualizations to support transaction strategy and management presentations for deals totaling $500M+.

MACHINE LEARNING PROJECTS

Deep Learning Image Recognition Model for the Da Vinci Surgical Robot   2024
- Collaborated with a team of graduate students to develop a deep classification model for surgical tools and tissue types using video recordings of a porcine nephrectomy procedure performed with the Da Vinci Surgical System. Trained and fine-tuned models to maximize classification accuracy.
- Developed a custom data preprocessing pipeline; transferred and partially froze open-source YOLO model for object segmentation; and implemented a convolutional neural network for tool and tissue classification. Trained and fine-tuned the system to achieve > 80% best classification accuracy.

Modality-Informed Metric Learner (Working Paper)   2025
- Developed a meta-learning framework for task-adaptive unsupervised metric learning consisting of modality-specific input encoders (MLPs, CNNs) and a meta-learned distance function (MLP). Trained the system with text, image, and tabular data to learn a generalized parameter initialization.
- Optimized the meta distance function using contrastive loss and bi-level, gradient-based techniques. Implemented a fine-tuning mechanism to enable rapid adaptation of the learned initialization to new, unseen data. Designed and conducted experiments to evaluate performance on clustering tasks.

Computer Vision Trading Agents (Working Paper)   2025
- Developed a deep reinforcement learning agent for algorithmic stock trading using OpenAI gym environments and Stable Baselines models. Implemented a data pipeline to transform candlestick data into Gramian Angular Field (GAF) inputs for generalized buy/sell/hold policy learning.
- Implemented a supervised digital twin agent trained with an identical GAF input and the RL agent's buy/sell/hold trading output as supervisory signals. Agent learned an interpretable policy that replicated RL agent's decision making through policy distillation from state-action trajectories.

Extractive Question and Answering Machine   2024
- Developed a modular, three-stage information retrieval system for answering factoid questions using the Stanford Question Answering Dataset (SQuAD 2.0). Experimented with a range of NLP techniques, tools, and libraries to conduct a comprehensive comparative performance analysis.
- Implemented question analysis by fitting a question classifier to the training set; implemented information retrieval using TF-IDF and BM-25 ranking methods; and implemented span-based answer extraction using named entity recognition (NER) and pre-trained transformer models (BERT).

TECHNOLOGIES & SELECT COURSEWORK

- **Programming Languages**: Python, R, SQL; working familiarity with C, C++, Java, MATLAB, and Visual Basic
- **Libraries and Frameworks**: PyTorch, TensorFlow, JAX, Keras, Scikit-learn, Pandas, NumPy, NLTK, and HuggingFace Transformers
- **Tools and Platforms**: Git, Docker, Bash, Linux, Jupyter, LaTeX, MLflow, Weights & Biases, Excel
- **Select Coursework**: Advanced Machine Learning, Deep Learning, Principles and Methods in Machine Learning, Natural Language Processing, High Performance Computing, Statistical Methods for Computer Science, Algorithms, Data Structures, Software Engineering, and Linear Algebra