PATRICK GLORIA

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ABOUT ME: Entrepreneurial AI product leader and Machine Learning Engineer with 3+ years of experience taking advanced AI concepts from ideation to near-launch API products on AWS Marketplace. As the founder of Clipt Videos, developed the full product strategy, roadmap, and business plan for novel multimodal AI solutions, achieving up to 90% model accuracy. Proven ability to own the entire product lifecycle, from R&D and MLOps automation to go-to-market preparation and investor engagement.

CORE COMPETENCIES

Languages: Python, MATLAB, Bash, SQL	**Cloud/MLOps:** AWS (SageMaker, EC2, S3, Lambda),
ML/DL: PyTorch, TensorFlow, Keras, Hugging Face,	Docker, Terraform, DVC, Git + GitHub Actions,
Scikit-learn, Transfer Learning, Multimodal Fusion, Time-	REST/GraphQL APIs
series Modeling, Natural Language Processing	**Data:** Pandas, NumPy, Data Wrangler
Tools: VS Code, JupyterLab, Linux, CLI, SSH	**Visualization:** Matplotlib, Plotly

WORK EXPERIENCE

Clipt Videos LLC, Founder and Machine-Learning Engineer   Jan 2025 – Present
- Developed and trained multimodal audio-visual emotion AI model [late-fusion CNN-BiLSTM-Transformer] using PyTorch, TensorFlow, and Python, achieving 89.5% test F1 across RAVDESS/CREMA-D combined datasets
  - Implemented feature extraction pipelines for audio (Spectrograms, Wav2Vec2) and video (FaceNet embeddings).
  - Managed and monitored machine learning training jobs on AWS EC2 instances using SSH, SCP, and Bash scripts
- Developed separate humor fusion machine learning model with AWS SageMaker JupyterLab instance using UR-FUNNY
  - Designed a multimodal deep learning model in Python with distinct encoders (e.g., hierarchical LSTMs/Transformers) to process text (word embeddings) and acoustic (frame-level HuBERT features), capturing temporal dynamics and generating rich feature representations for each modality.
  - Architected a late-stage fusion mechanism to integrate these learned text and acoustic embeddings (e.g., via concatenation, attention, or MLP layers) for a final binary classification of humor

Moderna Therapeutics, Formulation Discovery Group   Cambridge, MA
Research Associate Contract Co-op   July 2022 – Dec 2022
- Architected new product designs of cutting-edge vaccination drug delivery methods and used bioassay analysis to test for mRNA delivery efficacy for various chemical excipients
- Performed bioassays and formulated lipid nanoparticles to collect data on characteristics such as particle size distribution, encapsulation efficiency, and particle concentration to produce key insights using data science techniques

RESEARCH PROJECTS

MRI Brain Segmentation Analysis   Dec 2024 – Jan 2025
- Implemented image analysis pipelines in Python to quantify regional brain volumes based on the Glasser 360 cortical parcellation atlas.
- Achieved robust segmentation accuracy suitable for clinical and research applications, validating performance against standard benchmarks.

NBA Game Prediction Model   Oct 2023 – Jan 2024
- Developed an NBA game outcome prediction model in Python with Keras, Pytorch, and TensorFlow, achieving **72% accuracy** on a test set by analyzing 20 years of historical game statistics.
- Engineered novel features quantifying relative player performance across different eras using Python and Pandas for data manipulation.
- Implemented and trained machine learning models with logistic regression using **PyTorch**, **TensorFlow**, and **CUDA** for GPU acceleration.

Short-Term Effect of SEC Filings   Jan 2022 – May 2024
- Developed Python scripts using libraries like requests and BeautifulSoup (or specify others) to scrape EDGAR filings and retrieve real-time stock data via the Schwab API, a typical strategy in the field of operations research.
- Analyzed correlations between filing sentiment/type and short-term price movements using Pandas and statistical methods in Python achieving a **30% portfolio return** (Feb-May 2022) against a declining market trend.

EDUCATION

COLUMBIA UNIVERSITY, The Fu Foundation School of Engineering and Applied Science   New York, NY
M.S. in Biomedical Engineering   May 2022
GPA: 3.62/4.00

RENSSELAER POLYTECHNIC INSTITUTE (RPI), School of Engineering   Troy, NY
B.S. in Chemical Engineering, *summa cum laude*   May 2020
GPA: 3.91/4.00; Dean's Honor List for all semesters, (Fall 2016 – Spring 2020) Coonley Prize Winner, 1st Place ChemE Senior Capstone Project (Spring 2020)