Elliot Tuckerman

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GitHub https://github.com/etuckerman
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Portfoliohttps://etuckerman.github.io

Green Card holder; relocated from the UK to the USA.
Expertise in LLM optimization, NLP, and fine-tuning.

Skills

- **Languages:** Python, C++, C#, SQL
- **Technologies:** NLP (spaCy, BERT, NLTK), Multi-GPU Training, Model Optimization
- **Tools:** TensorFlow, PyTorch, Hugging Face, Scikit-learn, XGBoost, AWS, Git, Jupyter
- **Practices:** Test-Driven Development (TDD), Object-Oriented Design (OOD), Version Control, Agile

Education

- **Sheffield Hallam University** — Sheffield, UK
  BSc in Computer Science; GPA: 4.0 — *2020 – 2024*
  - **Specialization**: Machine Learning and Heuristics
  - **Additional Coursework**: CS50's AI with Python (Harvard, edX), NLP with Transformers (Hugging Face)

Experience

- **META (via Apex Systems)** — Remote
  Gen AI Contractor, Security Delivery Management Team — *2025 – Present*
  - **Prompt Injection Mitigation**: Labeled and analyzed GenAI outputs to detect and prevent prompt injection attacks in UI-interacting agents.
  - **LLM Behavior Evaluation**: Tested agent behavior and safety within simulated user environments, contributing to alignment and robustness efforts.
  - **Synthetic Data Generation**: Intentionally triggered high-stakes agent actions and exported traces for manual annotation, producing high-quality training data for fine-tuning.
  - **MLE Collaboration**: Led meetings with Meta Machine Learning Engineers to propose improved methods for synthetic data generation and evaluation refinement.
  - **Secure AI Operations**: Collaborated with AI and security teams to support safe, high-quality deployment of foundation models.
- **SPRK** — Tampa, FL
  Machine Learning Engineer, Syllabus AI — *2024 - Present*
  - **Data Parsing & Extraction**: Built scalable parsing tools using LlamaParse to extract and process detailed imagery and table contents from syllabi and reading materials, reducing manual effort and improving accuracy.
  - **Structured Data Pipeline**: Leveraged Qwen2.5-72B-Instruct to transform raw data into structured JSON, enabling applications like academic calendars and event notifications.
  - **Multimodal RAG System**: Developed chatbot RAG systems for solving math problems and scheduling college events, integrating image parsing and agentic workflows for seamless user interaction.
  - **State-of-the-Art Solutions**: Researched and implemented cutting-edge ML techniques, including advanced prompt engineering and model benchmarking, to ensure high performance and innovation.
- **DataAnnotation.tech** — Atlanta, GA
  Machine Learning Engineer, LLM Optimization — *2023 - 2024*
  - **Code Evaluation**: Validated outputs from large language models.
  - **Optimization**: Enhanced code for improved performance.
  - **Model Management**: Supervised in-development model performance.

Projects

- **Llama 3.1 QA Fine-tune**: Fine-tuned LLaMA 3.1 with TensorFlow, utilizing a custom dataset to improve language model performance for an RV company. Focused on optimization and evaluation.
- **Multilingual Speech Application**: Commissioned by a customer service team to build a real-time multilingual speech application using MMS-TTS database. Implemented a queue system for translating and outputting multiple sentences simultaneously, producing live, natural-sounding voice translations.
- **Multi-GPU LLM Fine Tuning**: Leveraged multi-GPU techniques in PyTorch to scale and optimize large language model training for improved efficiency.
- **Vehicle Theft Analysis**: Implemented data analysis with Python and Scikit-learn to extract insights from stolen vehicle datasets and develop predictive models.