

Elliot Tuckerman

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GitHub <https://github.com/etuckerman>
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Portfolio <https://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
 - **Relevant Coursework:** CS50's AI with Python (Harvard, edX), NLP with Transformers (Hugging Face)

EXPERIENCE

- **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.
- **Sheffield Hallam University** Sheffield, UK
Game Developer (C++) 2020 - 2024
 - **AI Development:** Created AI for Tic-Tac-Toe and Minesweeper using advanced algorithms.
 - **Project Management:** Led team, managing tasks and timelines.
 - **Game Quality:** Produced high-performance, user-focused games.
 - **Awards:** Won "2D Game of the Year" for innovative design.

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.
- **AI-Powered CS:S Surfing Community Assistant:** Developed a Python-based AI assistant using NLP to enhance player interaction in Counter-Strike: Source's surfing community.
- **Vehicle Theft Analysis:** Implemented data analysis with Python and Scikit-learn to extract insights from stolen vehicle datasets and develop predictive models.
- **PS5 3D Game Engine Development:** Engineered a high-performance PS5 game engine using the Sony PS5 SDK, optimizing graphics and performance.
- **Unity Advanced Movement System:** Developed an advanced movement system in Unity, enhancing physics realism and gameplay mechanics.