Elliot Tuckerman

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Relocated from the UK to the USA to contribute to the rapidly growing AI field; Green Card holder. Experienced in LLM optimization and NLP with hands-on fine-tuning and code quality improvement.

Skills

- **Programming Languages:** Python, C++, C#, SQL
- **Programming Frameworks:** TensorFlow, PyTorch, Scikit-learn, XGBoost, Hugging Face Transformers, DeepSpeed, LoRA, AutoGluon, LightGBM
- **Technologies:** Machine Learning, Deep Learning, NLP (spaCy, BERT, NLTK, Precision, Recall, F1 Score), Reinforcement Learning, Neural Networks, Transformers, Computer Vision (OpenCV, Pillow, OCR with Pytesseract, CNNs), Data Analysis, Feature Engineering, Model Deployment, Hyperparameter Tuning

Education

- **Sheffield Hallam University** — Sheffield, UK
  Bachelor of Science 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

- **DataAnnotation.tech** — Atlanta, GA
  Machine Learning Engineer, LLM Optimization — *Present*
  - **LLM Code Evaluation and Debugging**: Evaluated and debugged code generated by large language models (LLMs), ensuring accuracy and functionality through rigorous testing and performance assessment.
  - **Code Replacement and Improvement**: Replaced ineffective or incorrect code with optimized versions, enhancing the quality and reliability of the LLM's outputs.
  - **Private and Testing Model Management**: Handled private and in-testing models, providing feedback and improvements to support their development and transition towards public release.
- **Sheffield Hallam University** — Sheffield, UK
  Game Developer, C++ — *2020 – 2024*
  - **AI-Driven Projects**: Developed an AI opponent for Tic-Tac-Toe using the minimax algorithm, an inference-based AI for Minesweeper, and a reinforcement learning AI for Nim.
  - **Project Management**: Led and managed a team of developers, designers, and artists as the Scrum Master. Oversaw project organization, task allocation, and progress tracking.
  - **Game Development**: Developed and delivered high-quality games using C++ and game physics. Engineered 3D games and interactive environments, focusing on performance and user experience.
  - **Awards and Recognition**: Led a team to develop a light reflection-based game, winning "2D Game of the Year".

Projects

- **Llama 3.1 QA Fine-tune**: Fine-tuned the LLaMA 3.1 70B-Instruct model on a custom RV dataset, requested by an RV company. Implemented advanced fine-tuning techniques and deployed the model to Hugging Face Hub.
- **AI-driven tool for Counter-Strike: Source Surfing**: Developed a Discord bot for data collection and cleaning. Integrated the Mistral-7B-v1.0 model for context-aware responses and used 4-bit quantization to optimize data processing. Implemented OCR with Pytesseract and Convolutional Neural Networks (CNNs) for gameplay analysis and performance improvement suggestions.
- **Multi-GPU Fine Tuning LLM**: Fine-tuned a large language model using a multi-GPU setup with Deepspeed and LoRA. Configured mixed precision with bf16, gradient checkpointing, and 4-bit quantization. Managed training with custom datasets and applied FlashAttention for efficiency. Deployed and uploaded the fine-tuned model to Hugging Face Hub.
- **Vehicle Theft Analysis with Machine Learning Algorithms**: Cleaned and processed a dataset of stolen vehicles, applying supervised algorithms (KNN, SVM, Random Forest) and unsupervised methods (K-Means, Hierarchical Clustering) for pattern discovery. Developed heuristic visualizations and a PowerPoint presentation for board meetings.