Suvrit Sharma

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Education

NITTE University — Bangalore, India
Bachelor of Engineering-AIML — *Aug. 2021 – July 2025*

Experience

AI Developer — March 2025 – Present
Future Education.ai — *Bangalore, India*

- Developed and built an AI agent that automatically generates interactive educational PowerPoint presentations, reducing teachers' content creation time by 70%.
- Developed a subject-wise Knowledge Graph powering an adaptive learning platform for personalized learning pathways, while managing cross-functional collaboration in a fast-paced startup.
- Engineered an automated image processing pipeline that extracted, organized, and curated a database of 50,000+ scientific diagrams, images, and GIFs for high-quality educational content.
- Created and deployed an AI-based personalized test analytics API that delivers deep performance insights and tailored learning recommendations to thousands of students via an existing mobile app.

Machine Learning Intern — Aug. 2024 – Nov. 2024
Caliche — *Remote*

- Applied AI solutions to optimize processes in energy, manufacturing, and mining sectors, contributing to projects impacting 3+ industrial clients.
- Fine-tuned object detection, segmentation, and anomaly detection models, achieving accuracy improvements of 5–10% on real-world datasets.
- Implemented advanced data augmentation techniques, increasing model robustness and generalization across diverse industrial environments by 25%.
- Delivered end-to-end ML pipelines, managing data preprocessing, model training, and evaluation, resulting in streamlined deployment cycles.

Projects

AgenticSuite | *Python, RAG, ChromaDB, CoVe, Google Services, Git* — July. 2025

- Built the end-to-end AI/ML backbone leveraging advanced LLMs with chain-of-thought prompting, Retrieval-Augmented Generation (RAG), and CoVe-based self-consistency ensembles to power Email, Meeting, and Contract agents.
- Engineered a scalable NLP pipeline—OCR fallback → NLTK tokenization & lemmatization → regex clause boundary detection → semantic fingerprinting → Vector embeddings in ChromaDB—for seamless RAG-driven retrieval.
- Implemented the Contract Agent's hybrid risk-analysis workflow, combining rule-based heuristics, RAG retrieval, multi-iteration LLM assessments with majority-voting, and a feedback-driven learning loop for continuous improvement of legal clause evaluations.

Optim Hunt: Proving LLMs as MESA Optimizers | *Python,TransformerLens,HTML* — Dec. 2024 – Feb. 2025

- Investigated large language models (LLMs) as potential MESA optimizers, demonstrating in-context learning that outperformed standard algorithms on linear regression tasks (e.g., Friedman datasets).
- Designed and ran controlled experiments using Llama-3.1-8B-Instruct to isolate learning effects and analyze emergent behaviors in attention head dynamics.Identified key attention heads (e.g., layer 9, head 30) exhibiting emergent optimization patterns, supporting the hypothesis of LLMs acting as embedded optimizers.
- Analyzed and communicated implications for AI alignment and safety, highlighting potential risks of deploying LLM-based optimizers without robust oversight.

Technical Skills

Languages: Python, C++, JavaScript, HTML, CSS
Frameworks: PyTorch, TensorFlow, TransformerLens, OpenCV, Flask, AWS Lambda
Developer Tools: Git, VSCode, Jupyter Notebook, AWS (S3, Lambda), MongoDB Atlas, Firebase, Neo4j
Libraries: NumPy, pandas, scikit-learn, Hugging Face Transformers, Matplotlib, Seaborn, boto3, pymongo, OpenAI API, Google Gemini API
Cloud & Deployment: AWS (S3 Buckets, Lambda Functions), MongoDB Atlas, Firebase,ChromaDB