Kamal Sherawat

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EDUCATION

Master of Science in Computer Engineering — **Virginia, USA**
Virginia Tech, Blacksburg, Virginia — *Aug 2024 - May 2026*

Bachelor of Technology in Computer Science and Engineering — **New Delhi, India**
Sushant university, Delhi, India — *Aug 2018 – May 2022*

KEY SKILLS

Programming & Frameworks: Python, JavaScript, C#, C++, OOPs, PyTorch, TensorFlow, Flask, Keras, Scikit-learn, Hugging Face Transformers, ReactJS, Node.js

AI/ML & Data Science: Machine Learning, Deep Learning, NLP, Computer Vision, Generative AI (LLMs, GANs, Diffusion Models), Transfer Learning, Reinforcement Learning, Data Processing, Model Deployment

Tools & Platforms: Git, Docker, GitHub Actions (CI/CD), Google Cloud, SQL, MongoDB, Pandas, NumPy, Matplotlib, Jupyter

WORK EXPERIENCE

Virginia Tech — **Virginia, USA**
Graduate Teaching and Research Assistant — *August 2025 – Present*

- Taught and mentored students in Machine Learning by clarifying concepts, addressing doubts, and evaluating assignments/projects with constructive feedback.
- Conduct research in Neural Archaeology, analyzing neural network representations to improve interpretability and uncover insights into model behavior and architecture.

fAIshion Inc — **San Francisco, USA**
Software Engineer — *June 2025 – Aug 2025*

- Implemented intelligent size recommendation algorithms and personalized discount matching systems, leveraging ML models to reduce return rates and improve customer satisfaction.
- Built web-based tools and a dashboard using flask to visualize and explore bibliometric and publication data for research impact analysis.

Universal Technical Systems — **Delhi, India**
Software Developer — *November 2021 - June 2024*

- Migrated a desktop app to a scalable ReactJS + C# web platform and built an ML-based predictive maintenance system, cutting load times by 35% and improving detection accuracy by 85%.
- Created RESTful APIs and optimized MySQL databases, boosting scalability and speeding up data retrieval

PROJECTS

fAIshion.AI Virtual Try-On — *Jun 2025 – Aug 2025*

- Engineered an AI-powered virtual try-on platform using advanced computer vision and machine learning models to provide inclusive fashion recommendations for diverse user demographics.

Image Captioning with CNN-RNN Architecture — *March 2025 – April 2025*

- Created an image captioning model that uses VGG16 and LSTM with GloVe embeddings to generate accurate, natural captions for the Flickr8k dataset, achieving strong BLEU, METEOR, and ROUGE-L scores.

RESEARCH

Dynamic CNNs for Multi-Modal Tasks — *Jan 2025 – May 2025*

- Implemented emotion steering in Large Language Models using Representation Engineering (Zou et al., 2023), achieving 87% accuracy across 6 emotions, and built Flask+React web application for real-time demonstration.

AI Activation Steering — *Jan 2025 – May 2025*

- Implemented activation steering techniques for language model control, enabling real-time manipulation of AI model outputs through learned emotion vectors. Integrated Google Gemma-2-2B model with custom steering modules trained on emotion datasets, achieving controllable text generation with measurable steering effects

ACHIEVEMENTS

- Secured 1st place at AltCtrl University Hackathon by building an AI study assistant that automatically recommends relevant notes, videos, and study partners to students based on their learning progress.