

# CHIRAG JOSHI

## GRADUATE AI ENGINEER

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### TECHNICAL SKILLS

- Programming:** Python, JavaScript, SQL, MATLAB
- Machine Learning & AI: Deep Learning** (PyTorch, TensorFlow, HuggingFace), Generative AI, NLP, Computer Vision, Recommendation Systems.
- Data & Cloud:** NumPy, Pandas, OpenCV, PowerBI, Azure Cloud, Google Sheets API.
- Software Engineering:** Data Structures & Algorithms, System Design, Git, Agile, API Development.
- Certifications:** Microsoft Azure AI Fundamentals, Accenture: Data Analytics & Visualization.

### PROFESSIONAL EXPERIENCE

#### AI/ML Developer Intern, Softron Pvt. Ltd      Jul 2023 - Aug 2023

- Developed and deployed real time sentiment analysis and recommendation systems using Python, TensorFlow and scikit-learn.
- Built and optimized classification models with 87% accuracy on large scale datasets (> 500k rows).
- Conducted feature engineering, preprocessing, and ML pipeline optimization for production-ready deployment.

### KEY PROJECTS

#### Generative AI & Applied ML Projects

##### Spotify Song Recommendation System (Python, Pandas, scikit-learn, Spotipy)

- Built a personalized recommendation engine using collaborative + content-based filtering on 440k+ music records.
- Applied feature engineering & dimensionality reduction to optimize performance.

##### Token Classification for Medical Abbreviation Detection (Pytorch, HuggingFace, Streamlit)

- Designed and fine-tuned a RoBERTa-based NLP model achieving 90.1% F1-score.
- Deployed real-time inference pipeline with Streamlit UI and Google Sheets API for continuous dataset expansion.

##### High Performance Vision Language Model Under 50M Parameters

- Designed a compact dual-encoder (TinyViT + MiniLM) with novel ConvFFN head.
- Applied multi-caption contrastive learning and TinyCLIP-style distillation.
- Achieved 42.3% I $\rightarrow$ T R@1 (COCO-5k) and 56.1% I $\rightarrow$ T R@1 (Flickr30k), surpassing CLIP ViT-B/32 zero-shot baselines.

### EDUCATION

#### MSc, Artificial Intelligence

University of Surrey, UK

Sept 2024 - Sept 2025

- Coursework: Applied Machine Learning, Advanced Computer Vision, NLP.
- Dissertation on "High Performance Vision Language Model Under 50M Parameters".
- Projects: Visual Search System and fine tuned Deep learning models, improving knife classification accuracy (+5%) and vehicle re-identification (+8.4%).

#### BTech, Computer Science ( Data Science )

Shivaji University, India

Mar 2020 - Mar 2024

- Coursework: Machine Learning, Data Structures & Algorithms, Advanced Databases, Data Visualization.