

# Kartik Chincholikar

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## EXPERIENCE

### FLAME University

Associate Researcher

January 2024 – Present

Pune, IN

- Successfully **digitized text from historical Sanskrit manuscripts** using a semi-automatic workflow, consisting of **algorithms, AI Models, and humans** working in collaboration
- Design and development of **data annotation tools**, and **typing tools** for **Indic scripts**

### YouTube

Educational Content Creation (AI/ML) (@Kartikc)

January 2020 – Present

Pune, India

- Highlights:** Group Equivariant Neural Networks, Manifold Hypothesis, Statistical Learning Theory
- Gained recognition from Professors and leading AI Researchers from **Meta AI Research, the University of Waterloo, the University of Amsterdam, the University of Chicago and the University of Oxford**

### Equitech Futures

Associate Researcher, Teaching Assistant

March 2022 – April 2023

Chicago, IL (Remote)

- Identified risk factors** for chemotherapy-induced nausea and vomiting (CINV) in breast cancer patients
- Collaborated with domain experts and **enabled efficient distribution of expensive antiemetic medicines**
- Assisted students with data cleaning, EDA, data visualization and Bayesian modelling
- Evaluated the **feasibility of AI solutions** for various domain-specific problems

### Badminton School

Founder, Coach

September 2017 – January 2021

Pune, India

- Taught the basics of Badminton on YouTube, reaching **2.5 million viewers** and garnering **34,000 Subscribers**
- Built an **annotation tool** to record and derived insights **from sequential data of 40+ Badminton players**

## PROJECTS

### Digitizing text from Handwritten Manuscripts

- Design and development of **manual** and **automatic line-segmentation**, and **layout analysis** tools
- Design and development of **data annotation tools** (Vue, Flask) to collect data for **Image2Text**, **Text2Text** tasks, and fine-tuned AI models for the same: **CNN-BiLSTM-CTC** and **llama, ByT5-Sanskrit**
- Developing JS modules for improved **typing UX for Indic Scripts**

### Group Equivariant Neural Networks

- Visualized and animated a forward pass through an equivariant neural network architecture
- Improved upon Patchcore-inspection (Industrial Anomaly Detection) using an Equivariant CNN to **encode Images into a Vector Database**, and then used **FAISS (Facebook AI Similarity Search)** to find anomalies

## EDUCATION

### Maharashtra Institute of Technology

BE Mechanical Engineering, First Class

2012 – 2016

Savitribai Phule Pune University, India

- Coursework:** Materials Science, Numerical Methods, Operations Research, Industrial Automation, Manufacturing

## SKILLS

**Machine Learning Stack** : numpy, matplotlib, pandas, Scikit-Learn, PyTorch, JAX, PyTorch, HuggingFace, Transformers

**WebDev Stack** : HTML, CSS, React, Vue, Flask, fastapi, Github Actions

**Tools:** LLM workflows, GCP, Vertex AI, Vision API, DocAI, AWS Sagemaker, GitHub, Adobe Photoshop, Davinci Resolve