KARTIK CHINCHOLIKAR

I'm into Art, AI, Histories and other Mysteries. I also enjoy simplifying complex concepts into short videos.

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SKILLS:

- Ability to synthesize and communicate complex technical concepts clearly and concisely.
- Quick Learner, Professional Googler and Internet explorer.
- Strong foundations in Math, Deep Learning, Machine Learning and AI.

TOOLS:

Adobe Creative Suite & More:
Photoshop, Premiere Pro, Audacity, Canva, Corel Draw, Prompt Engineering, Mood Boarding, Scriptwriting,

Deep Learning Stack:
Generative AI, Natural Language Processing and LLMs, Computer Vision, Data Science

Other Technical Tools:
MATLAB, R, AutoCAD, SOLIDWORKS, Ansys, Java, Android Studio

Productivity:
Zotero, Notion, Obsedian, Discord, Slack

EDUCATION:

BE Mechanical Engineering
Savitribai Phule Pune University, India
First Class [2012-2016]

WORK EXPERIENCE

Badminton School [2018-2020]

- **Advertising and Content Creation**

Started a Youtube Channel teaching the basics of Badminton in Hindi, garnering 34k Subscribers.

- **Sports Analytics**

Made an annotation tool to manually collect the data of the badminton player to be analyzed.
Derived insights from sequential data to find common "Patterns of Play". These patterns can be exploited during the crucial moments of a match.

Machine Learning Storyteller [2020 - Present]

- **A Study of the Manifold Hypothesis**

An expression of humanity's multiplicity in video format. The video featured twice on popular YouTube channel Machine Learning Street Talk.

- **A study of Group Equivariant Neural Networks**

Visualized a forward pass through a neural network architecture which has been *designed to respect the symmetries* of the ground truth data-labeling function. Incorporating such prior knowledge to design data-efficient models is crucial in domains where data collection and labeling is expensive.
The video was acknowledged by geometric deep learners Taco Cohen (Qualcomm) and Erik Bekkers (University of Amsterdam).

- **Simulations in Statistical Learning Theory**

Ran toy simulations to understand the need to use domain knowledge to do feature engineering and also to choose a hypothesis class *which is not too flexible, but flexible enough.*
Use of animation enabled easy exploration of topics such as the i.i.d assumption, PAC Learning, Feasibility of Learning, bias-complexity trade off, No-free-lunch theorem and the VC Dimension.
The resulting video was acknowledged by Shai Ben David, Professor of Theoretical Computer Science at University of Waterloo.

Equitech Futures [2022-2023]

- **Research Associate**

We highlighted the risk factors which make breast cancer patients undergoing chemotherapy more prone to nausea and vomiting (CINV).
Despite a small dataset size, the risk factors found corroborated with existing literature.
I made a novel contribution to the *Inclusion Criteria* via a data cleaning procedure which makes better use of domain knowledge, enabling fine tuned treatment.
Work done in collaboration with Oncology Department at the Kenyatta National Hospital, under the guidance of Bhasi Nair and Abhilash Mishra.

- **Teaching Assistant**

I assisted students with their assignments on:
Python Foundations, Bayesian Modelling, and Data Visualization.
I also had many insightful discussions on the *feasibility* of AI applications to various domains.

SportShack [2016-2017]

- **Android Development**

Built an Android app which enabled runners to share screenshots with friends.

- **Gamification**

Designed a rating system to motivate runners to be consistent.