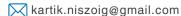
# KARTIK CHINCHOLIKAR

I'm a Deep Learner who enjoys simplifying complex concepts into short videos. I will help you take design decisions to make the most out of domain knowledge, while allowing the data to do the rest.







# SKILLS:

- · Ability to synthesize and communicate complex technical concepts clearly and concisely.
- Strong fundamentals in Linear Algebra, Probability and Calculus.

# TOOLS:

## **Machine Learning Stack:**

numpy, tensorflow, pytorch, pytorchgeometric, scikit-learn, matplotlib, pandas and vector databases

#### Other Technical Tools:

AWS Studio Lab, MATLAB, R, Java, Android Studio, AutoCAD, Ansys

#### **Adobe Creative Suite & More:**

Photoshop, Premier Pro, Audacity, Canva, Prompt Designing for Generative Al

#### **Productivity:**

Zotero, Github, Notion, Obsedian, Discord, Slack

## EDUCATION:

**BE Mechanical Engineering** 

Savitribai Phule Pune University

India

First Class [ 2012-2016 ]

## EXPERIENCE

# Machine Learning Storyteller [ 2020 - Present ]

## 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.

## · 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 Professor Shai Ben David, who is a Professor of Theoretical Computer Science at University of Waterloo.

## A Study of the Manifold Hypothesis

I compiled everything which excited me about this topic in a video. The video featured twice on popular YouTube channel "Machine Learning Street Talk".

# Equitech Futures [ 2022-2023 ]

#### Research Associate

We highlighted the risk factors which make breast cancer patients undergoing chemotherapy more prone to nausea and vomiting

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 Al applications to various domains.

# Badminton School [ 2018-2020 ]

#### 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.

#### Advertising and Content Creation

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

# SportShack [ 2016-2017 ]

### Android Development

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

#### Gamification

Designed a rating system to motivate runners to be consistent.