

# Future Health Fellowship (Virtual)



**Project Title:** Advancing Healthcare through Model Pre-training

## **Project Background/Objectives:**

The intersection of artificial intelligence and healthcare presents an unprecedented opportunity to enhance diagnostic accuracy, personalize treatment plans, and improve patient outcomes. This project focuses on leveraging model pre-training techniques to process and analyze healthcare data from various modalities, such as imaging, electronic health records, and genomic data.

## **Objectives:**

1. Conduct a comprehensive literature review on advanced model pre-training approaches, focusing on their application in healthcare.
2. Extend and fine-tune existing pre-training pipelines to accommodate diverse healthcare data modalities.
3. Explore and evaluate the performance enhancements achieved through the use of PyTorch

## **Scope:**

- The intern will initially focus on a thorough literature review to understand current methodologies and their impact in the healthcare domain.
- The project will then transition to practical application, involving coding and experimentation with pre-training models.
- The final phase will involve integrating the pre-trained models into a prototype system for healthcare data analysis.

## **Project Job Description:**

We are seeking an intern with a strong foundation in computer science and a passion for applying AI in healthcare. The intern will be responsible for:

1. Conducting an in-depth literature review of model pre-training approaches in healthcare.
2. Extending existing pre-training models to support various healthcare data modalities.
3. Fine-tuning these models using PyTorch
4. Documenting the research process and findings, and presenting them to the team.
5. Continuously learning and staying updated with the latest trends in AI and healthcare technologies.

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## Tech Skills Requirements:

- Strong proficiency in Python programming.
- Demonstrated experience or keen interest in learning PyTorch
- Familiarity with machine learning concepts, especially in model pre-training.
- Access to a GPU with more than 16GB for development and testing.
- Good problem-solving skills and ability to work independently.
- Excellent communication skills for effective collaboration and documentation.

## Location:

- Remote

## Period & Duration:

- 6 months (Part-time)
- Rolling enrolment

This internship provides a unique opportunity to contribute to meaningful projects at the forefront of AI and healthcare, offering valuable hands-on experience in a rapidly evolving field.