(Data Science Intern - Part-time), (Remote)

Fortify Health

Job Description

Team: Monitoring and Evaluation
Contractor Fee: INR 2667 per day (or GBP / USD equivalent) for a part-time role (assuming 3-days per week of support)
Location: Remote
Terms of employment: 3 months
Language Requirement: English
Tentative Start Date: January 16th, 2025
Closing: 11:59pm IST, 23rd December 2024*

*Please note: We will be reviewing applications on an ongoing basis before the closing date, so we recommend submitting applications as soon as possible.

About Fortify Health

Fortify Health has a vision for a healthier world where everyone has the micronutrients they need to survive and thrive. We work toward this by enabling access to micronutrient-rich wheat flour to reduce and prevent iron deficiency anaemia. We currently work in eight regions in India but are planning to expand to new regions in the coming years.

Fortify Health operates through three work streams:

1. Open Market Support: We support millers to cost-neutrally fortify chakki atta in the open market
2. Government Partnership Support: We work with governments in India to mainstream wheat flour fortification through social safety net programs
3. Evidence Generation: We conduct monitoring and evaluation of activities to inform the public about the value of food fortification

How we work

We take a data driven approach to our work, heavily focusing on how we can have the most impact possible with the resources we have. This forms a core part of our organisational ethos. At Fortify Health, we value each of our team members and support their career development. Since we are a remote organisation, our HR team organise regular online socials in addition to an annual full team retreat to build team cohesion.

About the role

Fortify Health has developed and piloted an innovative machine-learning algorithm that leverages neural networks to estimate the amount of added iron in fortified wheat flour. We believe that this product can be a meaningful game-changer to cut down the time required to determine whether the amount of iron in fortified wheat flour is within prescribed regulatory limits. Current approaches lack either speed or quantitative specificity. This product has the potential to support rapid and safe scale of a highly cost-effective intervention both in India and around the world. We plan to make the product publicly available with the hope of supporting large-scale, wheat flour fortification globally.

We are looking for a skilled **Part-Time Data Science Intern** to develop/optimize the algorithm, and help us productize the innovation. This would be a fantastic opportunity for an early career data scientist to apply their skills to make a meaningful difference to a fast-growing non-profit. We're looking for a passionate Data Scientist who thrives on creativity and is driven by a relentless curiosity to explore innovative ideas, bringing energy and enthusiasm to discovering new insights and solving complex problems

The Data Science Intern will report to Fortify Health's Director of Research, M&E

Responsibilities and activities

- **Image Processing and Algorithm Optimization:**
    - Develop, train, and optimize machine learning models to process images.
    - Design and fine-tune algorithms to estimate outcomes based on image data.
    - Conduct experiments to enhance the accuracy and efficiency of the algorithms.
    - Implement and document processes for automated image analysis.

- **Data Management & Analysis:**
    - Gather, preprocess, and manage datasets related to iron spot test images.
    - Analyze image data and interpret results to provide actionable insights.
    - Collaborate with domain experts to refine the image processing methodology. Ensure the creation of a controlled sample to minimise any bias in the data

- **AI Integration & Use Case Identification:**
    - Collaborate with internal teams to understand organizational needs and challenges.
    - Identify other opportunities within the organization where Artificial intelligence can enhance monitoring, evaluation, and decision-making.
    - Provide recommendations for AI-driven solutions across various departments (e.g., health, research, data management).

- **Model Deployment & Reporting:**
    - Work with the field teams (users) to implement the machine learning models on the field
    - Monitor model performance and make necessary adjustments to improve outcomes.
    - Present findings and progress reports to key stakeholders, ensuring clear communication of technical concepts.

- **Research**

- Conduct a literature review of research on the related papers, new technologies, and application cases of AI that can potentially be adapted to FH work.
- Draft research/communication materials to disseminate about the AI projects status and learnings undertaken at FH

Please note that this job description is a guide to the work you will initially be required to undertake, but does not cover all of the duties the post holder may have to perform. Responsibilities will evolve over time, in discussion with the Director of Research M&E

If you were here right now, you would support with…

- Development/Optimisation of machine learning algorithms for reading iron spot test images and predicting the iron values - This will include
  - Understanding the workflow and limitations of iron spot test
  - Reviewing the previous machine learning algorithms/concepts
  - Review the existing data and direct team to generate data for training models.
  - Developing a new model or optimise the previous algorithm from the provided data
  - Test the accuracy of data and finetune the model
  - Plan for field testing and report the results.
  - Develop an implementation plan and sustainability plan for the model to be used in day to day activities.

Candidate profile

Requirements

- A strong passion for solving meaningful social problems with data
- **Qualifications -** Bachelor's or Master's degree in Data Science, Computer Science, Machine Learning, Statistics, or a related field.
- Proven experience in machine learning and computer vision, particularly in image processing.
- Proficiency with machine learning/deep learning libraries and frameworks such as TensorFlow, Keras, or PyTorch.
- Strong programming skills in Python, R, or other relevant languages.
- Experience working with image data and using tools like OpenCV or similar libraries.
- Familiarity with AI models for monitoring and decision-making.
- Strong analytical and problem-solving skills, with the ability to work independently and manage time effectively.
- Strong communication and collaboration skills, with the ability to work closely with non-technical teams, translating complex data insights into clear, actionable strategies while gaining a deep understanding of the domain.

Desirable attributes

- Previous experience working on health-related data projects or chemistry/biological image analysis.
- Familiarity with cloud platforms (AWS, Google Cloud, etc.) for deploying machine learning models.
- Experience with unsupervised and supervised learning techniques, as well as optimization algorithms.
- Understanding of M&E frameworks and how AI can enhance evaluation processes.
- Experience in AI application research

If you're not sure about applying because you don't know if you're qualified, we would really love you to apply anyway!

TO APPLY

PLEASE FILL OUT THIS: APPLICATION FORM
