esearch Scientist Intern

SHANTANU GHOSH

shg121@pitt.edu linkedin.com/in/i-am-shantanu-ghosh 3528713965
Pittsburgh

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Hiring Manager
MosaicML

Dear Hiring Manager,

I am writing to express my interest in the Rposition for Summer, 2023 at MosaicML. I am currently a 2^{nd} year PhD student in Artificial Intelligence at the University of Pittsburgh under the supervision of Dr Kayhan Batmanghelich. Prior to that, I graduated with a Master's degree in Computer Science from the University of Florida . My research interests lie in medical vision, deep learning, causal inference. I am particularly interested in developing explainable AI algorithms to (1) understand the rich internal structure of a blackbox model (2) improve the reasoning methodology in terms of high-level interpretable concepts in an image (3) bridge the gap between post-hoc explainability and interpretable by design methods.

Initially, I leveraged the anatomical landmarks (weak labels) from the **Stanford RadGraph NLP pipleline** to create an attention-driven algorithm to localize Pneumonia and Pneumothorax from **MIMIC-CXR** dataset. Later I devise a novel algorithm to extract an interpretable model from a trained blackbox iteratively to explain samples locally. We also provide basic reasoning by explaining the prediction in terms of first-order logic (FOL) statements. These FOL explanations assist us in comprehending how the interpretable model composes the different concepts to classify a given sample to engender trust in AI models.

Previously, I worked as a graduate assistant under the supervision of Dr. Mattia Prosperi, conducting research in Causal Inference. Also, I have a solid experience of 6.5 years of software development across two multinational companies Lexmark and Cognizant. I am particularly keen to work in the AI, ML, & Intelligent Automation domain where I can utilize my background in AI research and software development to automate different process. With this internship, I want to explore how to solve a real world problem using a method discussed in an academic paper. Also I am intrigued to understand how the machine learning models scale in the industry.

Thank you for your consideration. I look forward to the opportunity to speak with you and discuss the position in more detail. Please feel free to contact me at (352)871-3965 or shg121@pitt.edu

Regards,

Shantanu Ghosh