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Siegen, 30. January 2022

Recommendation Letter

Mr. Amit Kumar Gupta has successfully completed his student project under my supervision at the Institute of Knowledge Based Systems and Knowledge Management, within the department of informatics and electrical engineering, in the Faculty IV of the University of Siegen.

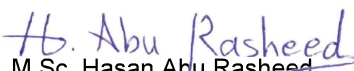
The institute of Knowledge Based Systems and Knowledge Management has expertise in the fields of applied knowledge management, intelligent systems, data/text mining, machine learning, semantic technologies, recommender systems, as well as software development of AI driven systems. For this we apply our knowledge in the areas of automotive- and semiconductor manufacturing, medical applications, e-health, Job-market recommendations, as well as e-learning, with a strong analytical focus.

Mr. Gupta came to my attention through his excellent performance and in the student project he worked on. In his project, entitled "**Visual Explainable Classification of CXR Images**", he showed a very good goal-fulfilment and proved himself as a responsible and dedicated engineer, as well as a hard-working student.

I was especially pleased to see that he is able to comprehend the technical application methods of topics that are new to him. He has shown good search abilities, which enabled him to understand the concepts of visual-data classification and explainability. Mr. Gupta has developed an explainable classifier for CXR images, for the task of pneumonia detection. He compared the performance of ResNet50 and VGG16 pre-trained models. Using the ResNet50 model, he implemented two explanation concepts: an image masking algorithm. and a shallow CNN model for computing region and pixel weights respectively.

Based on the scientific understanding and technical abilities that Mr. Gupta showed in his successful work, I can recommend him for a future position in science and industry, in the fields of computer science, image classification, machine learning and explainability; and I wish him the very best for his future work.

Best regards,


M.Sc. Hasan Abu Rasheed
Siegen, 30. January 2022