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Recommendation letter

To Whom It May Concern,

It is my great pleasure to write this recommendation letter to offer my strongest support for Gexin Huang, a very talented student in our group, to continue pursuing a doctoral degree in your prestigious university. Under my supervision, Mr. Huang is currently a third-year master student majoring in pattern recognition and will obtain his master degree in June 2020. He is a hardworking student with positive attitude and persistent self-motivation for scientific research, which will qualify him to be a highly competitive candidate. I am a full professor at School of Automation Science and Engineering, South China University of Technology, where my research focuses on biomedical signal processing and machine learning. I am an IEEE Senior Member, and serves as a Member of the IEEE Biomedical Signal Processing Technical Committee. I am also the Associate Editor for Neurocomputing and Neural Processing Letters.

As his supervisor, I have known Gexin for nearly three years. As such, I feel well qualified to comment on his abilities. During these years of his study, Gexin has repeatedly shown himself to be a diligent and creative student – he is able to come up with innovative ideas to solve long-standing challenges in machine learning for brain signal analysis. I am most impressed with Gexin's extraordinary ability to dig deep into his research questions with passion and persistence. For example, Gexin's thesis work has been developing a deep learning algorithm to solve the electromagnetic source imaging problem, i.e., estimating brain activities based on the EEG signals measured on the scalp; This is purely his own idea, but challenging as it is unclear in the EEG field how an inverse problem can be cast under a machine learning framework, which would open new opportunities to enhance the performance of existing algorithms. Despite the numerous obstacles, particularly unsatisfactory or unexpected results and the fact that there are few prior studies as references, Gexin never wavered due to his strong belief that the idea would be transformative and feasible. During this period, we had frequent exchanges and discussions, and I was deeply impressed by his hard work, self-discipline, and high professional standards towards academic research. Through his persistent efforts and methodical approach, Gexin was able to develop an auto-encoder based algorithm that successfully solved the brain source imaging problem and achieved superior results compared with traditional methods. This potentially impactful work is currently under review at IEEE Transactions on Neural Network and Learning Systems.

Gexin's positive attitude and diligence have earned him a multitude of honors and achievements. For instance, in his coursework Gexin kept ranking top ten out of the 128 students and top fifteen out of the 102 students during his undergraduate and graduate studies, respectively. Notably, his passion and interest in the machine learning led to his deeper understanding of the underlying theories and higher scores for professional courses than other students, where he scored 95/100 for Machine Learning and 92/100 for Pattern Recognition. Moreover, Gexin obtained the Excellence Award in the Huabei Division of National University Intelligent Car Competition in 2015. This award was highly competitive and only bestowed to fifty students in each of the five divisions in China.

Gexin is such a promotive and diligent student that it was no surprise to me when he expressed his desire to go abroad for further study. I strongly support his decision in the belief that he will be a qualified candidate for your program with his wisdom and endeavors. As such, I recommend him without

reservation. If any other information about Gexin is required, please feel free to contact me.

Sincerely yours,

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