

Dear Sir / Madam,

I'm Wen Yang, a professor in the School of Electronic Information at Wuhan University. I am writing to recommend Mr.Liu, one of my favorite students, for acceptance into your doctoral program. As the head teacher of his class, his research supervisor during his undergrad years, and his advisor for his undergraduate thesis, I think I know enough about his academic ability.

It was October 2018 when I first made his acquaintance. I had one-on-one talking with every student in my class. During the communication with me as a freshman, he showed his strong interest in programming and intense enthusiasm for engaging in research as soon as possible. Soon afterward, I recommended he join a research project team under my guidance that used a combination of UAVs and unmanned ground vehicles for target search. He acted as a great team player, assisting senior students in promoting the project. Since then, I have interacted with him more frequently. I introduced him to my signal processing lab. He assisted many graduate students in their research in my laboratory.

What I am very appreciative of is that I have witnessed his continuous growth in the four years that I have been in contact with him. At first, as I mentioned, he only participated in the research project as a team member or as the assistant of the graduate students. However, since the end of 2019, he has organized his research project as the team leader and led his peers to conduct research. This is a project for synthetic aperture imaging using an event camera with the deep learning method. The project was later approved as a national university student research project, which shows its high level. Despite the high demand for the national university student research project, he still successfully led the team to complete it.

Then, guiding his graduation thesis, I found that he had become a self-independent researcher. I gave this judgment based on his independence in coming up with new ideas and his strong engineering skills. His thesis was about using an event camera to detect objects with the deep learning method, which is a relatively pioneering field and therefore challenging. He built the code from scratch without existing open-source resources and eventually achieved an algorithm with the highest level of multiple metrics on existing datasets. The time and effort required for this research and the quality of the final result far exceed that of a typical undergraduate thesis. We now plan to submit a revised version of the paper to an international conference.

Besides the research, Mr.Liu also performed well in my junior-level course "Introduction of Artificial Intelligence," in which he demonstrated his algorithm-design and innovation talents far beyond most of his peers. My course was a very comprehensive class combined with several projects about artificial intelligence and a final presentation that aimed to encourage students to do some extended research in the area. Again, Mr.Liu not only finished projects well but also showed his excellent presentation skills.

In the view of all I know, I was lucky to have witnessed Mr.Liu grow from an enthusiastic first-year student to a bright and qualified researcher, demonstrating his great potential. During his undergraduate years, he worked mainly on deep learning and computer vision-related work. Still, I am confident his capabilities will help him achieve brilliant success in other fields.

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