National Center for High-performance Computing
National Applied Research Laboratories
Hsinchu 30076, Taiwan

July 29th, 2023

Dear Admissions Committee,

I am writing to recommend Mr. Po-Han Hou. As his summer internship mentor at NCHC, I have been impressed by his excellence in research, problem-solving abilities, and interpersonal skills. Without a doubt, he ranks among the finest students I have ever mentored, consistently surprising me with his capabilities. I wholeheartedly endorse him for admission to your esteemed institution.

When I first came to know about Po-Han's background and experiences, I did not have high expectations for him. However, I gradually realized that he was not someone who tries to curry favor or uses flattery, but a person of integrity with active characteristic and clear logical thinking. In addition to academic courses in space science, he also manage to take advantage of various resources for acquiring knowledge and skills in computational science and machine learning. This includes engaging in peer-to-peer exchanges and participating in workshops co-hosted by NCHC and NVIDIA on topics such as quantum computing, accelerated computing, Modulus, and OpenACC. Due to his enthusiasm for machine learning, I assigned him to work on the Physics Informed Neural Network (PINN) and Fourier Neural Operator (FNO), as well as to conduct experiments with NVIDIA-Modulus.

During the internship, Po-Han implemented FNO via TensorFlow from scratch, applied it to image recognition, and performed benchmarks against CNN and ResNet50 models. His passion for PINN did not wane even after the two-month internship concluded. Throughout the academic term, he proactively sought guidance, independently delved into the simulation of advection equation using PINN, discussed its results with me, and collaborated with his adviser, Professor Jih-Hong Shue, to propose a novel regression-based PINN approach. They applied this approach to predict magnetopause locations and its waveform. This innovative endeavor showcases his exceptional commitment to pushing the boundaries of knowledge and problem-solving in his field.

I truly admire his unwavering dedication to learning, research, and personal growth. Moreover, his adeptness in interpersonal interactions is commendable, fostering harmonious collaborations with colleagues in his internship, nurturing mutual progress and knowledge sharing. Given his motivation for learning, accomplishments, and personal qualities, I believe he ranks among the best students I have ever mentored. Therefore, I am confident that he will continue his quest in the field of computational science. I wholeheartedly recommend him as a student at your esteemed institution.

Sincerely,

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