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Dear Sir/Madam:

I am pleased to recommend Zhekai Liu for the Mitacs, a student in my numerical analysis course. Zhekai has told me about his application for this academic research opportunity, his enthusiasm for applied math combined with machine learning and numerical methods, and also the request to provide a recommendation letter. He is a hardworking and talented student relative to the other students in my class and got a satisfactory grade on the final numerical exam, so I feel that he would be a qualified candidate for your project.

Zhekai is good at thinking and he can always raise some valuable questions after my class. Moreover, I think he has a deeper understanding of knowledge compared with other students. Last summer, I learned he joined a research project as a student in the numerical team to solve some specific problems in the nonlocal models. The most supervised me is that he used the idea of cubic splines function with boundary values conditions which are what I taught in my class, to solve his nonlocal approximation. Finally, he used his methods to approximate the derivative and solve the differential equations and showed his results to me. What’s more, he is also a creative student. After he realized his method to approximate the gradient, he was keenly aware that this approach could be applied in machine learning and approximate the gradient and perform the gradient descent. I also know that he is preparing to submit their team’s results to the JMM conference in 2024.

In addition, he is good at communicating with others. He has a good relationship with his classmates and usually discusses machine learning optimization problems together.

Finally, I think Mitacs is a good chance for Zhekai to expand his horizons and get essential academic training. He is a patient and focused student with the qualities required for a successful researcher, which makes me firmly believe that he will achieve success. I highly recommend the young man for your project.

Sincerely,

Haiming Song.