September 30, 2022

To whom it may concern,

I am writing this letter to help you understand Kaiyuan WU's performance in the Nanotechnology & Electric Vehicles technologies Online Research Seminar. To provide an overview of what the student has achieved in this programme, I am also including a programme summary for your reference.

This 7-week programme was designed to introduce the students to the basic principles of Nanotechnology and electric vehicle technologies. Through a series of interactive lectures and weekly assignments, the students built up their understanding of the key issues around electrification, why it is so important to pursue, and the challenges facing the phasing out of the internal combustion engine. They gained an understanding of the challenge faced in trying to replace the enormous energy density found in conventional fuels with the meagre values one finds for batteries, and the steps being taken to bridge this gap. The students then all presented their findings as a team of 3-4 students, which was a great opportunity for them to work on their presentation skills, and then they each completed a final report. Students were actively encouraged to participate as this also formed part of their overall score, and they all did so very well. By the end of the course, they had gained knowledge of how electric vehicles work, the challenges in their mass-production, and also a knowledge of what Nanotechnology is and what it has to offer to the field of electric vehicles.

Overall, Kaiyuan WU's performance in this programme was very good.

Kaiyuan was a student who impressed me a lot with his serious outlook towards learning and his advanced communication skills. He never missed a single class, no matter if it was a lecture or a mentor session. He maintained a reciprocal communicative relationship throughout the entire programme with me, discussing class content at a very professional level. He also actively initiates and maintains interaction with me and the mentor from the beginning of the programme for feedback on his assignments and the final project.

There were several assignments where students were required to answer short questions related to the key content of each lecture to demonstrate their understanding. Kaiyuan's homework performance was fair. It would be better if he could put more thought into the assignments.

For the final assignment, a group presentation was required on one of the given topics for each group with individual written reports submitted along with the presentation. In the final presentation, Kaiyuan introduced the group and the topic, which is nanotechnology in electric vehicles. More specifically, he discussed various battery developments. His speech was very clear and good. In addition, Kaiyuan wrote an excellent report on the application of nanotechnology to improve battery performance. He presented a very clear analysis of recent developments in the area and looked at Si nanowire anodes. It was a very insightful report.

I hope Kaiyuan WU can pursue further study in this field. If there are any specific questions I can answer about Kaiyuan's performance in my programme, please feel free to contact me.

Sincerely,

Colm Durkan
Professor of Nanoengineering science
Deputy Head of the engineering department
University of Cambridge

David Shen
Senior Advisor, Academic Committee
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