

UiO : Department of Physics

University of Oslo

To whom it may concern

Date: June 15, 2019

Letter of recommendation for Vegard Børve Sørdal

I have been the supervisor of Vegard Børve Sørdal both for his master and PhD projects, a total of six years. From the beginning, Vegard was a very good student with deep understanding and broad interests. He is an independent thinker both regarding selection of research topics and in problem solving, often suggesting new directions or ideas which I have not thought of. His work with me has been mostly in stochastic thermodynamics of classical systems. Recently, we have also worked on problems in quantum mechanics.

A common theme in our activities has been optimization of some physical quantity (like entropy production or generated power) under certain conditions and external constraints. This has necessitated the use of a combination of analytical and numerical methods, and Vegard has always shown interest and ability in mastering new technical tools. Most recently, this led to the use of machine learning methods, specifically deep Q learning. This was a new topic for both of us, and Vegard could not take any advantage of my previous knowledge. He was able to accomplish our goal in short time, mastering on the way completely new methods.

During his time as a PhD student, he also spent half a year in Barcelona performing experiments on DNA-molecules using optical tweezers. This, together with previous laboratory experience gives Vegard an unusually broad background. Although trained mainly in theoretical physics, he has experience and understanding of experimental work, and is one of a few who masters both analytic, numerical and experimental methods.

Part of his duties as PhD student has been to teach regular university courses and supervise students in laboratory classes. In this activity he has shown interest in improving the quality of teaching and in the learning process itself. He is also a person which interacts easily with other people, and who will integrate well into any work environment focused on research and problem solving. I strongly recommend him for the present position, and I have great confidence that he will show excellent performance in any task that he chooses to work on.

Yours sincerely,



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Professor



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