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To whom it may concern,

It is my pleasure to write a letter of recommendation on behalf of Dwaraknath Gnaneshwar, with who I have worked closely for over 2 years on a range of research projects, from adversarial robustness to machine translation to network sparsification. I first met Dwarak during his second year of undergrad through a Deep Learning session I had held. It became very clear to me early on that Dwarak is an exceptional student who showed great potential.

Dwarak was one of the first students to join the college's new deep learning chapter. His passion for learning and innovation was a great positive influence within the group. He regularly brought up very interesting ideas, critically evaluated them, and encouraged others in the group to do so as well. Dwarak and I worked together on a project that aimed to make neural networks adversarially robust. Within a few days, Dwarak conducted a thorough literature review, understood the dynamics of attack and defense mechanisms, and also proposed his own ideas to advance the state of the field. This ability to process, internalize complex topics, and propose new ideas in such a short amount of time is very rare among students of his age. Dwarak continued to bring the same dedication and passion to all our further collaborations.

In light of the various projects we have worked on together, I admire Dwarak's ability to combine good research with good code. He conducts research in a framework that adheres to standard software engineering principles which enables efficient experiment management and helps in deriving insights with ease. He has experimented extensively with many frameworks such as Tensorflow, Pytorch, etc, and is also experienced with writing TPU friendly code. His experience with a breadth of different tools and frameworks puts him at an advantage over the typical candidate. During our collaborations on Adversarial defense and Neural Machine Translation, Dwarak demonstrated his ability to implement and reproduce research papers from scratch and write frameworks with an intuitive design.

Dwarak is one of the very few people I have met who is genuinely passionate about interdisciplinary applications of ML. Dwarak and I met regularly to discuss applications of Machine Learning in the real world. It was evident to me from these conversations with him that Dwarak has an impressive understanding of Molecular Dynamics simulations of physical systems and its applications to material science among other fields. His ability to understand and draw analogies between different

fields is truly impressive.

I am confident that any organization would be incredibly lucky to have Dwarak as a contributor. I believe that Dwarak's desire to combine Machine Learning and Physics perfectly aligns with CERN's vision. I would be happy to elaborate further on Dwarak's candidature and can be reached via the contact information provided below.

Sincerely,

Siddhartha Rao Kamalakara,
Machine Learning Scientist,
ProteinQure and FOR.ai