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November 25, 2016

Simos Evangelou M.Eng., Ph.D.
Senior Lecturer

To Whom It May Concern

Dear Madam/Sir

RE: Reference for Mr Theo Franquet

I write to you in recommendation of Mr Theo Franquet. I had the chance to interact with Theo during an undergraduate research project he completed in the summer of 2016 under my supervision in the Department of Electrical and Electronic Engineering. His project was conducted through the Undergraduate Research Opportunity Program here at Imperial College London, which is a program in which students apply to take part in research in a subject of their choice over the summer.

Theo has been working extensively on neural network development used in hybrid powertrain control for a two-wheeled vehicle. He has been working in continuity with the studies of a master's student's year project submitted in June of 2016, in which an artificial neural network (ANN) has been designed in Matlab to estimate future vehicle velocity based on current driving parameters. Theo's work included a rigorous comparison of ANN training algorithm performances for the given neural network, for which he completed a full report to explain his study. The second month of his research was dedicated to developing a Matlab script able to simulate the ANN operating continuously over time as a moving window. Theo has successfully written code able to simulate ANN training and propagation using gradually incoming sensor data for each of the driving parameters used. Again, a report explaining the script structure and operation has been written by the student for future reference.

Theo has been working with remarkable dedication on the objectives of his project. His work now constitutes an essential block of the overall control system of the vehicle model. The completion of this script is a vital step towards implementing machine learning in the vehicle's powertrain control. Theo's reports are meticulous and show great understanding and critical thinking over the subject in question, and they now aggregate into very valuable material that will be used for further work on the topic.

Theo is a student that has the capability of working independently on advanced technical material he has never come across before, which was the case for neural networks and machine learning in general. He is very competent in interacting with other researchers and he is comfortable in doing individual presentations on his work.

Yours sincerely,

Simos Evangelou