



NAVER LABS EUROPE

Meylan, September 18, 2020

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To whom it may concern

Recommendation Letter for Yassine Habbahaddou

Yassine Habbahaddou did his Master Internship from March 2021 until October 2021 in the “Search and Recommendation” Team at Naver Labs Europe. During that period, he worked under my supervision. His work focussed on Deep Exposure Models -- a family of deep learning models aiming at predicting user examination and click behaviour when browsing search or recommendation result pages (SERPs) -- and constituted a part of a more global Research Project dedicated to developing the new generation of Search and Recommendation engines for Naver Corp. in South Korea.

During his stay in our group, Yassine has developed new methods in this field. In particular, he adapted classical transformer architectures to model the browsing behaviour of users in front of a SERP presented in the form of a complex layout of multiple verticals, taking into account the hierarchical aspects of the layout. The outcome of his internship will have significant impact on the other parts of the project, as a new way of capturing complex behaviour with powerful, yet robust, models. He not only proposed novel approaches, but also implemented them in a real-life context. In particular, he has very good programming skills in Python and an excellent knowledge of deep learning frameworks such as Pytorch.

Since the beginning, Yassine showed a creative and inventive approach in solving the problems raised in the project. He has good scientific qualities such as curiosity and open mindness, especially in his capacity of looking to techniques from other fields as sources of inspiration for solving our problem. I was particularly impressed by his ability to establish and follow an experimental plan covering a large spectrum of approaches. Furthermore, he was an engaged team member and integrated easily our research group.

For all the above reasons, I recommend Mr Yassine Habbahaddou for a Ph.D. student position in your lab. If you have additional questions regarding his capabilities and personal character, please feel free to contact me.



J.M. RENDERS



CentraleSupélec

May 25th, 2020

Recommendation letter to graduate programs



CNRS - FR 3487
Fédération de Mathématiques
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F-91190 Gif-Sur-Yvette - France

To whom it may concern:

I am writing in support of Yassine ABBAHADDOU's application for graduate programs.

First and foremost, I must mention that CentraleSupélec is among the best three French engineering schools. Students are recruited based on a very difficult national contest after two years of intensive scientific study in preparatory classes, and are therefore equipped with great knowledge and skills in mathematics and physics when they enter the school.

The first year is dedicated to classical lectures in mathematics, computer science and other general background. During the second year, students can apply to a one-year project on specific subjects proposed by private companies, start-ups or research laboratories. Yassine ABBAHADDOU applied to a research project in the laboratory of Mathematics in Interaction with Computer Science (MICS, <http://www.mics.centralesupelec.fr/>) under the supervision of Gautier Viaud (researcher at MICS) and myself.

More precisely, he worked on the pricing of American options in mathematical finance using deep learning and neural network approaches. Strong mathematical and programming skills were necessary for this project, as its main objective was the study of a partial differential equation mixed with free boundary problems. It required good knowledge in optimal stopping and probabilistic approaches using stochastic differential equations to solve such problems with high-dimensional neural networks. He notably developed algorithms using binomial trees and Monte-Carlo framework. But he also developed neural network framework using the TensorFlow and Keras frameworks. This framework has been used during a data challenge proposed on the Ecole Normale Supérieure's platform.

It is clear that Yassine ABBAHADDOU is a promising student. He is a good mathematician with great potential in programming. He proved that he is able to take part in a high-level scientific project and I am sure that he has all the qualities to follow a graduate program in your institution.

I have therefore no hesitancy in recommending Yassine ABBAHADDOU for applying.

Best regards,

Ludovic Goudenège,
Researcher at French National Center for
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