KU LEUVEN

DEPARTMENT OF COMPUTER SCIENCE
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TO WHOM IT MAY CONCERN

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LEUVEN 2022-04-21

Recommendation Gilles Van De Vyver

It is my pleasure to provide this recommendation letter to support Gilles Van De Vyver.

I met Gilles in 2021 as co-supervisor of his Master's thesis that he prepares within our research group DistriNet (https://distrinet.cs.kuleuven.be/) at KU Leuven. My role in DistriNet is to identify opportunities for collaboration with industry, acquire research funding and transfer high-potential research results. As such, I follow-up high-potential research.

Gilles' Master's thesis is a good example of a highly innovative research result with outspoken relevance for industry. The goal of his thesis is to evaluate the effectiveness and potential of transfer learning in acoustic anomaly detection and to investigate how to adapt neural networks to account for domain shifts between datasets (for example, caused by different operational conditions of a machine).

Gilles demonstrated a **mature research attitude**: he not only rapidly understood the problem and came up with a blueprint solution, he also validated the feasibility of the proposed approach by developing a set of prototypes and comparing their accuracy and performance to a state of the art approach. He had a clear view to address model transformation and anomaly detection challenges in a step-by-step manner and avoided to get lost in a complex research domain. Gilles worked independently for the most part, both in refining the research questions, searching for solutions and in the actual elaboration of the research.

Gilles is a **strong communicator** who can clearly explain research results to third parties. As such, he already acts as an example for many Master students and starting PhD researchers. During the intermediate thesis presentations for our research group, Gilles responded as an expert in the field and demonstrated in-depth insights into the methodology, opportunities, and related research.

Although the thesis is still ongoing, first results are very promising and provide a solid basis for a **scientific publication**, which is exceptional for a Master's thesis in our department. The thesis has all potential to exceed the expected quality requirements at the Faculty of

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Engineering of KU Leuven, in terms of depth, originality and completeness of the proposed results.

I would rank Gilles **among the top 5% Master students** I have guided throughout the last 20 years, both in terms of theoretical depth (e.g. understanding acoustic anomaly detection as well as pursuing new techniques and algorithms) and development skills (e.g. to design prototypes and conduct experiments). In doing so, his thesis contributes not only to the academic community but also demonstrates its added value for industry.

Gilles aspires to work abroad and further broaden his scope and experience. This totally characterizes his **ambition to grow** as an independent researcher. Beyond any doubt, Gilles possesses all academic, social and development skills to successfully achieve his dream. I sincerely wish him all the best in doing so. Meanwhile, our door remains open for further collaboration.

Because of his excellent research skills, the results that he accomplished already and his exceptional character of a reliable, ambitious and hard working scientist, I am fully convinced that Gilles is an excellent candidate for any research position either in academia or industry.

I wish him all the best in his further career.

Sincerely,

Sam Michiels, PhD
Senior Industrial Research Manager
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