Dear Sir or Madam:

I hereby certify that **Marcin Kastek** participated in the LIBS 2022 Regression Contest organized by members of the LIBS 2022 conference's organizing committee Erik Képeš, Ph.D., Jakub Vrábel, and Assoc. Prof. Pavel Pořízka, Ph.D. from the Central European Institute of Technology, Brno University of Technology as tasked by the conference chair Prof. Alessandro De Giacomo.

Marcin Kastek has achieved excellent analytical performance in the prediction of the concentration of a major and 3 minor elements in 15 steel test targets. The regression contest was designed to require the extensive pre-processing of the provided optical emission spectra, e.g., by carrying out denoising, normalization, and baseline subtraction, each of which demand spectroscopic expertise. Moreover, the size of the provided datasets required a high level of automation, i.e., proficiency in programming. Lastly, the non-linear nature of the considered data demands the application of advanced machine learning approaches, whose optimization is non-trivial due to their tendency to overfit the data.

In conclusion, tackling the prediction challenge with the results yielded by Marcin requires considerable expertise in spectroscopic analysis, chemometrics, and machine learning. As such, I highly recommend Marcin for any position that requires any of these skills.

Erik Képeš, Ph.D.,
LIBS 2022 Regression Contest manager

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