Master Thesis Proposal M3E

Year 2017

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Title: **Real time Business Process Optimisation based on machine learning**

3 keywords:	Optimisation processus	Machining learning	Cloud

Fluent French language required: No ☒ Yes ☐

MT in relation with industry or a lab: No ☐ Yes ☒

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Financial contract: No ☐ Yes ☒ Financial operator: M3E
- amount (in €HT):

Time in industry or lab: No ☐ Yes ☒ Length: **100 % M3E**
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Internship compensations: No ☐ Yes ☒ Amount (in €TTC) : **To be defined**

Abroad: No ☒ Yes ☐ Location: Paris

Context: Digital transformation allows the manager to redefine completely the value chain in the enterprise. The upcoming automation and optimization possibilities from the internal transversal processes up to the direct end user interface enable a significant increase in productivity and user satisfaction.

Objectives: The first objective of the project is an analysis of the possibilities and the awaited impact of the transformation of business processes based on the usage of application running on mobile devices (Smartphones, tablets, etc.), including highly mobile front devices (iOT, etc.) or new disruptive technologies (Blockchain, etc.).
The second is to find a predictive model which allows an optimisation of Business Processes in real time.

Objectives: The first goal of this project is to provide a physical understanding of chatter mechanism for robotic milling. The second is to find a simple model permitting to predict the possibility of chatter vibration for each milling operation.

Work description:

- State of the art of business process optimization (BPM, VSM, Case Management, Process Mining) with innovative digital applications;
- Identification of a model allowing automatic business process optimization based on machine learning techniques
- Optimization of the model to attain real time prediction and action proposals for the end-user
- Experimental validation.

Priority : YES ☐ NO ☐

Reserved to the administration