

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Post-processing tool design for CAN tests analysis on Python software platform.</b>
<b>Author's name:</b>	<b>PAURON Valentin.</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Mechanical Engineering (FME)
<b>Department:</b>	Automotive, Combustion Engine and Railway Engineering
<b>Thesis reviewer:</b>	Klepněte sem a zadejte text.
<b>Reviewer's department:</b>	Automotive, Combustion Engine and Railway Engineering

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>How demanding was the assigned project?</i>	
<p>The project required deep analysis of methodology and structure of signals involved in the validation process of CAN tests. The goal was to produce an operational tool usable for industrial needs.</p> <p>Valentin demonstrated quick and robust analysis of the documentation and data available to build the structure of his post-processing tool, with respect to good practices in programming. This will ensure maintainability for further developments that could be implemented in the future.</p>	

<b>Fulfilment of assignment</b>	<b>fulfilled</b>
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
<p>The primary goals assigned to Valentin have been completely achieved :</p> <ul style="list-style-type: none"> <li>- Analysis and full understanding of the needs : validation of CAN tests using a combination of several kind of CAN signals corresponding to a specific behavior of the system to be validated.</li> <li>- Development of a flexible tool on Python software platform able to proceed to automatic validation of the tests by analyzing the different combination of signals available in one acquisition datafile.</li> <li>- Robust management of exceptions into the program</li> <li>- Clear structure elaboration of the program with high level of function factorization</li> <li>- Usable and simple graphic user interface design.</li> </ul> <p>Parts of thesis overextended :</p> <ul style="list-style-type: none"> <li>- Management of statistics produced by the tool.</li> <li>- Robust execution of the program and chain execution using acquisition files' name recognition.</li> <li>- Clear and graphic reports regarding project advancement along the project, good autonomy, strong capacity of analysis.</li> </ul>	

<b>Methodology</b>	<b>outstanding</b>
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
<ul style="list-style-type: none"> <li>- Global approach used to understand the objectives</li> <li>- Division in specific subjects to correctly analyze the specificities of each aspects of the requirements.</li> <li>- Research of robust solution and maximal reuse of developed solutions : factorization.</li> </ul> <p>Good practices in analysis of a situation and program structure are well mastered.</p>	

<b>Technical level</b>	<b>A - excellent.</b>
<i>Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?</i>	
<p>Python programming is well mastered, autonomy in the search of new function design or already-made solutions is a good approach for engineering. His action has been done with method.</p> <p>Valentin has demonstrated good abilities along the project to develop and report in every aspects of the project.</p>	

**Formal and language level, scope of thesis**

**B - very good.**

*Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?*

Regular reports were done with Valentin, including a presentation of his work in front of the Department Chief Officer : explanations are clear, language is fluent, the structure of the report is logical.

Valentin will gain more confidence as he will be confronted to further presentation of his work.

**Selection of sources, citation correctness**

**A - excellent.**

*Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?*

Earlier work such as programming abilities have been well reused and confirmed Valentin's good practices in such an exercise. Valentin has developed and improved his abilities for test analysis and solution query keeping with robustness focused solutions.

Valentin used Renault's documentation to elaborate his software strategy, the knowledge on the CAN subject has been well exploited and understood.

**Additional commentary and evaluation (optional)**

*Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.*

The quality of Valentin's work is very good and the tool he developed will be used for industrial applications : it will contribute to the performance improvement of the projects under development.

I am very satisfied of his work as he demonstrated the skills that will make him a good engineer :

- Consideration and analysis of the problem / situation.
- Research of best indicators to contribute to quantify the problem.
- Achievement of the objective with gradual and realistic approach.

**III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE**

*Summarize your opinion on the thesis and explain your final grading. Pose questions that should be answered during the presentation and defense of the student's work.*

Valentin had a challenging thesis and he succeeded in an excellent way. The approach he used was the good one, going from general considerations to particular and take time to well understand the needs and goals before going into solutions. He kept open minded to remarks or suggestions which is very important in a collaboration team. The query of solution showed a good level of pragmatism and a sense of prioritization of activities.

Achievement of the objective with gradual and realistic approach has been particularly appreciated.

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Valentin will gain more confidence as he will be confronted to further presentation of his work

The grade that I award for the thesis is **A - excellent.**



# THESIS REVIEWER'S REPORT

Date: 28.8.2023

Signature: DENAYROLLES M.

A handwritten signature in black ink, appearing to read 'Denayrolles M.', is positioned below the printed name. The signature is stylized and cursive.