Budapest University of Technology and Economics

Faculty of Mechanical Engineering

Department of Fluid Mechanics

http://www.ara.bme.hu/

FINAL PROJECT ASSIGNMENT

CLASSIFIED

<table>
<tr><td rowspan="6">Identification</td><td colspan="2">Name: Pintér András</td><td colspan="2">ID: 78439315166</td></tr>
<tr><td colspan="2">Code of the Curriculum: 2N-MW0</td><td>Specialisation:</td><td>Document ref. number:</td></tr>
<tr><td colspan="2">Curriculum: Gépészeti modellezés mesterképzési szak</td><td>2N-MW0-FM</td><td>GEÁT:2023-1:2N-MW0:NJTXXY</td></tr>
<tr><td colspan="2">Final Project issued by:</td><td colspan="2">Final exam organised by:</td></tr>
<tr><td colspan="2">Department of Fluid Mechanics</td><td colspan="2">Department of Fluid Mechanics</td></tr>
<tr><td colspan="4">Supervisor: Dr. Kristóf Gergely János (71957915589), associate professor</td></tr>
</table>

Project Description

Title

Predictive analytics of a vacuum pump using machine learing

Vákuumszivattyú prediktiv elemzése gépi tanulással

Details

1. Get acquainted with the vacuum pump's technological environment and the available dataset

2. Make a literature review about the machine learning methods applicable for predictive analytics

3. Get to know the general functioning of the vacuum pump, and its possible forms of failure

4. Based on the logged data of the pump's control system, investigate the possibility of automatic failure prediction

5. Present the results, and propose possible next steps which could help the company reach its goal with the project

6. Prepare the MSc thesis according to the formal requirements

Advisor

Advisor's Affiliation:

Flowserve Pte Ltd.

637345 Singapore, Tuas Loop 10.

Advisor: Ravi TIWARI, R&D Engineer

Final Exam

1st subject (group)	2nd subject (group)	3rd subject (group)	4th subject (group)
ZVEGEÁTNW02 Computational Fluid Dynamics	**ZVEGEÁTNW03** Fluid Mechanics Measurements	**ZVEGEÁTNW08** Building and Environmental Aerodynamics	**ZVEGEÁTNW22** Aero-Elasticity

Authentication

Handed out: 5 September 2022		Deadline: 9 December 2022	
Compiled by: Dr. Kristóf Gergely János (71957915589) Supervisor	Verified by: *Dr. János Vad* (signed) Head of Department		Approved by: *Dr. Gábor Györke* (signed) Vice-Dean

The undersigned declares that all prerequisites of the Final Project have been fully accomplished. Otherwise, the present assignment for the Final Project is to be considered invalid.

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Pintér András