CTU
CZECH TECHNICAL UNIVERSITY IN PRAGUE

THESIS SUPERVISOR'S REPORT

1 IDENTIFICATION DATA

Thesis title:	**Temporal Consistency for Object Pose Estimation from Images**
Author's name:	**Vojtěch Přibáň**
Type of thesis:	bachelor
Faculty/Institute:	Faculty of Electrical Engineering
Department:	Department of Cybernetics

Thesis reviewer:	Ing. Vladimír Petrík, Ph.D.
Reviewer's department:	IMPACT, CIIRC, ČVUT

2 EVALUATION OF INDIVIDUAL CRITERIA

Assignment **challenging**

The goal of the thesis was to improve the state-of-the-art in object pose estimation from images by introducing temporal consistency.

Fulfilment of assignment **fulfilled**

All goals of the thesis were fulfilled. On top of the assignment, student also evaluted the proposed temporal consistency on the real robot.

Activity and independence when creating final thesis **A - excellent**

Activity of the student was outstanding. If some of the suggested approaches did not work as expected, the student was able to propose and implement an alternative solution before we discussed it. Once the prototype was implemented, student was not satisfied with the speed of the inference and proposed alternating approach described in the thesis. That allowed him to perform extensive ablation study and to run the method on the real robot.

Technical level **A - excellent**

The thesis is well written.

Formal and language level, scope of thesis **A - excellent**

The thesis is well organized and the language and notation is clear and understandable.

Selection of sources, citation correctness **A - excellent**

The thesis makes adequate reference to earlier work on the topic.

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3 OVERALL EVALUATION

Before student started his work on the thesis, he contributed as a coautor to our conference submission entitled "Visually Guided Model Predictive Robot Control via 6D Object Pose Localization and Tracking". We identified the limits of the perception module based on that work and the thesis was proposed as a solution to the identified problem. Student successfully implemented the proposed solution and evaluated it quantitatively on benchmarks as well as on the real robot. The stability of the approach outperforms the method presented in our conference submission. The thesis contributes to the European project Agimus. Student also prepared the paper based on his results and we plan to submit it soon to the IEEE RA-L journal.
The grade that I award for the thesis is **A - excellent**.

Date: 12.06.2024 Signature: