

Bachelor's Thesis Assignment



156738

Institut: Department of Intelligent Systems (DITS)
Student: **Gajdošík Richard**
Programme: Information Technology
Title: **Implementing gesture recognition on ARM as an alternative to traditional device control**
Category: Artificial Intelligence
Academic year: 2023/24

Assignment:

1. Analyze current hand gesture recognition methods and their advantages compared to the traditional way of controlling various devices.
2. Design and implement a model for real-time gesture recognition on ARM chips from NXP.
3. Create a demonstration application that can graphically display recognized gestures.
4. Optimize the model for maximum performance on ARM chips.
5. Conduct user testing and evaluate user reactions and feedback. Discuss further possibilities and developments of using gesture recognition for control.

Literature:

- NXP Semiconductors. i.MX Machine Learning User's Guide, 2023. Dostupné online <https://www.nxp.com/docs/en/user-guide/IMX-MACHINE-LEARNING-UG.pdf>

Requirements for the semestral defence:

Points 1 and 2.

Detailed formal requirements can be found at <https://www.fit.vut.cz/study/theses/>

Supervisor: **Kočí Radek, Ing., Ph.D.**
Head of Department: Hanáček Petr, doc. Dr. Ing.
Beginning of work: 1.11.2023
Submission deadline: 9.5.2024
Approval date: 6.11.2023