# TECHNICAL UNIVERSITY OF LIBEREC
## Faculty of Mechatronics, Informatics and Interdisciplinary Studies ■

## THESIS EVALUATION
### SUPERVISOR EVALUATION

Author name: Denis Griaznov
Supervisor: Jan Koprnický

Thesis title: Electromyography control of robotic systems

A. Abstract quality, keywords matching ............................... Excellent (1)

B. Research scope and processing .................................... Excellent (1)

C. Level of theoretical part ............................................ Excellent minus (1−)

D. Appropriateness of the methods .................................. Excellent (1)

E. Results elaboration and discussion ............................... Excellent minus (1−)

F. Students own contribution ........................................ Excellent (1)

G. The conclusion statement ......................................... Excellent (1)

H. Fulfillment of Thesis tasks (goals) ................................ Fulfiled

I. Structure, correctness and fulness of references ................... Excellent (1)

J. Typographical and language level .................................. Excellent minus (1−)

K. Formal quality .................................................... Excellent minus (1−)
   (text structure, chapters order, clarity of illustrations)

L. Student access (independence, activity etc.)........................ Excellent (1)

Comments, remarks:

All tasks were fulfilled although Matlab was not used. It was replaced by other programming environments during the development. The control system was designed as an application in production line.

I discovered it could be useful to present versions of used SW. They are missing.

Some chapters are quite brief, but the understandability of the written text is not decreased.

I would welcome Figures in vector form instead of raster form for better presentation of all outputs.

Overall assessment:

The master thesis is focused on wearable arm band called Myo Armband for sensing of EMG signals from the data processing and analyzing point of view. The human anatomy of fore arm and hand was not studied here.

Although this device is several years on the market and its production was stopped already, all benefits from using of such complex device has not been investigated yet.

The main goal of the work was to investigate the direct application of Myo Armband for robotic hand control. The student familiarized with the device, designed applications and experiments they proved the possibility of direct using. He was active and independent during these activities and he has fulfilled my requirements.

Questions for the defense:

1. Thalmic Lab or other companies have designed some applications for gesture recognition. Have you tested them or compared with your solutions?
2. Are there any other similar products on the market they can be used instead of Myo Armband?
3. Myo Armband has IMU with other sensors too. Why did not you used them for controlling purposes?

**Plagiarism checking:**

Similarity by STAG    0 %  (see www IS/STAG)
Comment if similarity is above 5 %:

**Overall classification and recommendation:**

 Work meets the Master degree requirements and therefore I recommend it for the defense
I suggest to classify this work by grade:  Excellent (1)

By signing I certify that I am not in any personal relationship with the author of the thesis

In Liberec                              date  June 10, 2020

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2