

## Supervisor's recommendation

Author: **Ing. Michal Dvořák**  
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Title: **New technologies for biometric recognition based on hand characteristics**  
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Michal has approached me in 2015 after defending his MSc. thesis at the Faculty of Electrical Engineering and Communication, Brno University of Technology. He showed a considerable interest in a research topic I have published and wanted to clarify the scope of the topic and whether his and my understanding of requirements match, which it did. After passing the admittance process, he became a full member of the STRaDe research group at FIT BUT as a Ph.D. and immediately became one of the most engaged members.

His choice of the research topic showed a considerable ambition, as it required a blend of software, electronic and optical engineering to realize a keen research mind, to keep pushing the state of the art and overall endurance to persist despite the long development process. I consider the topic very challenging, possibly suited for a small team rather than a single researcher.

Michal grew as a person and towards the end he spearheaded the development of a demonstration prototype of a biometric recognition system he conceived for an industry partner. He worked on multiple aspects ranging from optical and electronic design to firmware and software development, as well as serving as a natural leader for the development team. The device has received an enthusiastic reception at INTERSEC 2020 in Dubai and the novel technology behind it was awarded EU patent and was recently submitted for the US patent. During the development process, he was fiercely protective of the team, possibly to the detriment of his future cooperation with the partner, but even from this I have seen him learn.

His publication history shows an ability to work both as a sole author, or a member of a local or international team. His publications were mostly published in top ranking biometry journals or took a form of invited chapters in academic books.

Michal is an extremely purposeful, creative, and very hard-working person. I really appreciate his ability not to give up and finish the work he started. This trait showed in all his activities, be it research, work, or teaching. Always trying to help and improve. I also highly emphasize his excellent knowledge of English.

Hereby, in conclusion, I recommend his work to defend and to award the Ph.D. title.