

Posudek diplomové práce

Matematicko-fyzikální fakulta Univerzity Karlovy

Autor práce Bc. Adam Harmanec
Název práce Registration of images of nuclear fuel assembly
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Studijní program Informatika **Studijní obor** Umělá inteligence

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Text posudku:

The diploma thesis is written in English. It contains 5 numbered chapters, Introduction, Conclusion, Bibliography, Lists of Figures, Tables, and Abbreviations, and Attachments. The author investigates methods for registering the images of nuclear fuel assembly. The exact method of registration is not described in detail, the author states, that he chose the solve the area-based registration as an optimization problem. The core of the thesis is then devoted to finding the best metrics to solve the optimization problem. The author investigates 10 different metrics. At the end he proposes to use a hierarchical approach by combining different metrics in each step. Again, the process is not described in sufficient details. The author concluded several experiments on distorted images to evaluate the metrics.

Questions to the author:

Can you explain why are the accuracy and precision the same for all interpolation techniques for the range $[-100,100]$ in each table?

Can you show the equations to compute accuracy?

On page 26 you stated that the camera can be tilted and that you simulated this by rotating the image. But a rotated image is not the result of a tilted camera.

Did you also investigated the rotation of the camera around other axes?

Práci doporučuji k obhajobě.

Práci nenavrhuji na zvláštní ocenění.

Pokud práci navrhuje na zvláštní ocenění (cena děkana apod.), prosím uveďte zde stručné zdůvodnění (vzniklé publikace, významnost tématu, inovativnost práce apod.).

Datum 19. August 2021

Podpis