

This thesis deals with the problem of automatic generation of medical reports in the Czech language based on the input chest X-ray images using deep neural networks. The first part deals with the analysis of the problem itself including a comparison of existing solutions from several common points of view. In order to interpret medical images in the Czech language, we present a fine-tuned Czech GPT-2 model specialized on medical texts based on the original pre-trained English GPT-2 model along with its evaluation. In the second part, the created Czech GPT-2 is used for training a neural network model for generating medical reports. The training was conducted on freely available data along with data preprocessing and their adjustment for the Czech language. Furthermore, the model results are discussed and evaluated using standard metrics for natural language processing to determine the performance.