Universiti Teknologi MARA

Vein Recognition Using Cnn

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Thesis submitted in fulfillment of the requirements for Bachelor Of Computer Science (Hons.)
College Of Computing, Informatics & Mathematics

JANUARY 2024

ACKNOWLEDGEMENT

Alhamdulillah, praises and thanks to Allah because of His Almighty and His utmost blessings, I was able to successfully complete this research within the given time duration. I would like to express my sincere gratitude and appreciation to all those who have supported and guided me throughout this journey.

First and foremost, my heartfelt thanks go to my supervisor, Sir Ahmad Nazmi bin Fadzal, for his invaluable guidance, unwavering support, and expertise. His continuous encouragement and constructive feedback have played a vital role in shaping this research and enhancing its quality. I am truly grateful for his patience, dedication, and commitment to my academic and personal growth.

I would also like to extend my heartfelt appreciation to my dear family for their unwavering love, encouragement, and unwavering belief in my abilities. Throughout this research journey, their constant support, understanding, and sacrifices have been the foundation of my success. I am forever indebted to them for their endless prayers, encouragement, and motivation. Their unwavering presence and belief in me have given me the strength and determination to overcome challenges and pursue my academic goals. I am truly blessed to have such a loving and supportive family by my side, and I am grateful for their invaluable contributions to my personal and academic growth.

Lastly, I would like to express my deepest gratitude to my dearest friend who has been on this research journey alongside me. Despite working individually, we have shared the same goals, challenges, and aspirations throughout this project. Their unwavering support, motivation, and camaraderie have been instrumental in keeping me focused and inspired. Our regular discussions, brainstorming sessions, and mutual encouragement have created a supportive environment that has fueled our individual growth and progress. I am truly fortunate to have such a dedicated and driven friend who has been there every step of the way. Together, we have overcome obstacles, celebrated milestones, and made significant strides in our research. I am grateful for their friendship, shared commitment, and the bond we have developed through this collaborative experience.

However, portions of the research in this paper use the Nanyang Technological University Inner Forearm Database Version 2 (NTUIFDB v2). Credit is hereby given to the School of Computer Science and Engineering, Nanyang Technological University, Singapore for providing the Database.

In conclusion, I am grateful to all those who have contributed in any way to the completion of this research. Their support and belief in me have been instrumental in achieving this milestone. May Allah reward them abundantly for their kindness, and may this research be beneficial to the community and contribute to the advancement of knowledge in its respective field.

ABSTRACT

This project presents a novel approach for vein recognition using Convolutional Neural Networks (CNN). The motivation behind this research is to address the challenges associated with vein detection in healthcare settings, such as the manual and error-prone process of locating veins for procedures like blood draws and IV insertions. The methodology employed in this project involved collecting a dataset of forearm near-infrared (NIR) images, preprocessing the data, and training a CNN model to accurately identify and classify veins. The findings of this study demonstrate the effectiveness and novelty of using CNNs for vein recognition, achieving high accuracy rates in identifying veins in various settings. The actual work performed included data collection from the GitHub repository, implementation of the CNN algorithm, training the model, and evaluating its performance. The results obtained showcase the potential of CNN-based vein recognition systems in improving the success rate of vein punctures, enhancing patient safety, and optimizing healthcare practices. This project contributes to the field by providing innovative insights and solutions to vein recognition, opening avenues for further advancements in medical imaging and healthcare technologies.

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