Wenjuan Huang

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Education

M.S. in Computer Science, University of Houston | Houston, TX 08/2021 – 05/2024(expected)
M.S. in Computer Application, Tianjin University of Technology | Tianjin, China 09/2007 - 03/2010
B.S. in Computer Science, Shandong University of Science and Technology | Taian, China 09/2003 - 06/2007

Technical Skills

Languages: Python, C/C++
Tools: OpenCV, PyTorch, TensorFlow, scikit-learn, PIL
Keywords: Computer Vision, Machine Learning, Deep Learning

Work Experience

Image Recognition Software Engineer | Beijing Guowang Fuda Technology Devt. Co., Ltd. 08/2012 - 07/2017

Connected the Video Device to the Power Transmission and Transformation Equipment Monitoring System

- Developed a C++/MFC application to receive the raw video frames from video devices by UDP, then decode the raw video frame by using H.264, and display by using CImg.
- Developed a C/C++ SDK for automatic detection of foreign objects intruding into power networks by using OpenCV.

Substation Equipment Iced Identification System

- Developed a C++/MFC application to receive the raw video frames from video devices and weather data from microclimate device by UDP, then decode the raw video frame by using H.264, and display by using CImg.
- Developed a C/C++ SDK for automatic detection of ice thickness on substation equipment.

C++ Software Engineer | Beijing Founder Apabi Technology Co., Ltd. 03/2010 - 07/2012

CEBX Ebook Automatic Indexing Software

- Developed a C/C++ SDK to identify the chapters on the Contents page, clicking on a chapter can enable users to jump to corresponding text pages.
- Developed a C/C++ SDK to detect and identify tables present in ebooks.

Apabi Dingxiang Indexing Electronic Newspaper Software

- Developed a C/C++ SDK for customized, to index articles and generate XML structured data as output.

Projects

Frailty Assessment Research based on Wearable-Based Signals from Cardiac Patients 10/2023 - 12/2023

- Extracted the features from patients' information before they performed the physical tests, and used it to do frailty prediction.
- Extracted the features from the accelerometer raw data, used it and the features from patients' information before they perform the physical tests to do frailty prediction.

Computer Vision Course Project 01/2023 - 05/2023

- Scraped medicine images, and labeled them as 'US-based', 'Not US-based', or 'Unknown'.
- Used PaddleOCR model and ResNet50 to do prediction respectively, combined the two model's probabilities to generate the final result.

Chat with Robot 05/2023 - 07/2023

- Implemented advanced voice recognition technology to convert spoken language into text.
- Integrated an AI library to enable natural language understanding and contextually relevant responses.
- Used text-to-speech synthesis for converting AI-generated textual responses into natural-sounding voice.

Publications

Study of Sitting a Micro-Station Based on Correlation Analysis,Advances in Meteorological Science and Technology,July 2017
Icing Thickness Measuring Based on Improved Hough Transform, Modern Electric Power, Jun.2014
A method of Genetic Algorithm optimized Extended Kalman Particle Filter for nonlinear system state estimation, the 5th International Conference on Natural Computation (ICNC'09).

Particle Swarm Optimized Unscented Particle Filter for Target Tracking, 2009 Second International Congress on Image and Signal Processing.