NGOC-TRAM NGUYEN

Curriculum Vitae

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RELATED PROJECTS

Feb 2023 – Now Ho Chi Minh City, Viet Nam

- **Building Abnormal Action Detection System**
  - Leveraged computer vision techniques to detect humans in video frames and extract their 3D pose information.
  - Trained a 3D Convolutional Neural Network (CNN) to classify actions as normal (e.g., clapping, shaking hands) or abnormal (e.g., falling, head touching, shooting).
- **Developing an Early Action Recognition System**
  - Developing a deep learning model to predict human actions in videos from short snippets (10-90% observed).
  - This system has potential applications in traffic accident warnings, patient healthcare monitoring, and other real-time scenarios.
- **Text-to-Speech Synthesis**
  - Text synthesized into a speech similar to the human voice.
  - Developed a deep learning model to convert Mel-spectrograms (intermediate representation of speech) into high-quality audio waveforms.
  - Focused on the second stage of text-to-speech synthesis for realistic speech generation.

EXPERIENCE

AI Research Assistant

AISIA Research Lab

Dec 2022 – June 2023 Ho Chi Minh City, Viet Nam

- **Developing Radar Waveform Classification Model**
  - Researched paper about waveform classification in radar communication systems to design a novel deep-learning architecture.
  - Preprocessed radar data by generating 12 unique signal representations using MATLAB.
  - Implemented and optimized a deep learning model for robust classification under varying signal-to-noise ratios (SNRs).

AI Engineer

Emage Development Co.Ltd

Jan 2020 – June 2020 Ho Chi Minh city, Viet Nam

- Implemented image pre-processing and post-processing techniques (OpenCV) to enhance the accuracy of deep learning models for semiconductor defect classification.
- Developed an automated labeling algorithm (Python) integrated into a labeling application, achieving a processing speed of 0.02 seconds per click.
- Designed and trained cutting-edge deep learning and machine learning models for robust classification of semiconductor defects.

SKILLS

Coding: Tensorflow, Pytorch, OpenCV, Scikit-Learn, Python

Database: Mysql, MongoDB

Cloud: AWS (AuroraDB, EC2)

EDUCATION

Faculty Of Mathematics And Computer Science

Ho Chi Minh University Of Science, Vietnam National University Ho Chi Minh City

September 2016 - April 2021

- GPA: 7.6/10.0

Master Program in Computer Science

Ho Chi Minh University Of Science, Vietnam National University Ho Chi Minh City

December 2021 - Now

- Thesis: Developing an Early Action Recognition System
- GPA: 8.2/10.0

AWARD

- **The First Price in Developer Circles Vietnam Innovation Challenge.**
  Organizers: Facebook & Coder School
  Description: Fraud detection on identification cards. It supports staff to speed up their validation process.
  - OCR: get information from ID card (Google Cloud Vision API).
  - Face comparison: compare the face on the ID card and that on the selfie photo (Amazon Rekognition – AWS).
  - Document template check: validate the template (Template Matching – OpenCV)

REFERENCES

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