Luong Duc Thuan

AI Engineer

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Sex: Male

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CAREER GOALS

Short-term: Apply skills and professional knowledge to the position applied.
Long-term: Become a good engineer in Artificial Intelligence.

EDUCATION AND BACKGROUND

5/2019 – now	**Posts and Telecommunications Institute of Technology (PTIT)** Major: Bachelor in Electronics and Telecommunications Engineering GPA: 3.02

SKILLS

Programming	Python, C/C++
Teamwork	Github
Computer OS	Windows
Document Creation	Microsoft Office
Language	Be able to reading comprehension specialized documents in English
Web	Deploy AI project
Artificial Intelligence	- Have basic knowledge of Machine Learning and Deep Learning. - Have basic knowledge Data Structures and Algorithms. - Ability to basic use frameworks such as: tensorflow, keras, scikit-learn, …

CERTIFICATIONS

Time	Name certifications
8/2022	- Kaggle: Intro to Machine Learning link. - Kaggle: Intro to Deep Learning link.
9/2022	- Kaggle: Computer Vision link.
10/2022	- Coursera: Convolutional Neural Networks for DeepLearning.AI link.
12/2022	- Certificate Samsung talent program scholarship.

PROJECT

Name project	Product goal	Introduce
Age-Gender-Prediction Link	User gender and age are important for organizations to understand their customers. Therefore, this model is used to predict the user's gender and age in order to optimize benefits for the organization.	- Using machine learning techniques, data augmentation for preprocessing image. - Use the MobileNets v2 model to predict the age and gender of everyone appearing in the frame. Due to its compactness, easy to deploy to the edge but still relatively effective, the MobileNet v2 model was chosen. - Dataset: UTKFace dataset is a large-scale face dataset with long age span (range from 0 to 116 years old). The dataset consists of over 20,000 face images with annotations of age, gender, and ethnicity. The images cover large variation in pose, facial expression, illumination, occlusion, resolution, etc. - Using yolo v3 model to detect faces appearing in 1 frame for prediction. - Predict age and gender of people using MobileNets v2 and UTKFace datasets with 91% accuracy gender, 80% accuracy ethnicity, 47.45 MSE age. - Languages used: Python 3. - Algorithm used: MobileNets v2.
PPE detection Link	At labor sites, workers are not conscious of wearing protective gear to ensure safety. This model was born to warn workers not to wear protective gear in the frame	- Using yolo v5 model for identification: person, helmet, protective vest. The reason for choosing the yolo v5 model is that the yolo v5 model has improved performance due to the use of genetic algorithms, data enhancement techniques, and other improvements. - Dataset: A new dataset was built to detect helmets, helmet colors and people for this project, named Color Helmets and Vest (CHV) dataset with 1330 high quality images. - Due to the facilities, it is recommended to use the yolo v5s version to conduct the training process. - Protective gear recognition model with 88% precision 77% recall and 82% mAP@0.5. - Languages used: Python 3. - Algorithm used: Yolo v5.

RESEARCH EXPERIENCE

AI, Network and Security research Group (PTIT) Undergrade
Research Student:
   - Supervisor: Ph.D Hoang Trong Minh
   - Focus: AI.

My activties	Activity description
Data analytics for IoT-23 datasets.	- Partial analysis and processing of IoT-23 datasets including: evaluation, cleaning, encryption.
Network intrusion detection based on LR_GA and DNN using KDD cup's 99 datasets.	- Data preprocessing: Data is analyzed, cleaned, encrypted and using Kmeans algorithm to cluster the data but keep the coverage of the entire data. - Realizing that the model has differences between attack types, different algorithms should be used to balance the data (NearMiss, SMOTE, Class_weights for LR). - Build LR_GA model and put into DNN model to train the model. - Analyze results and compare with other methods.

ACTIVITIES

Working part time	- High school math tutor. - Python programming to children tutor.

Join AI, Network and Security research Group (PTIT) Undergrade

Join clubs and extracurricular activities