HOANG MINH SON

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EDUCATION

Hanoi University of Science and Technology — **Vietnam**
Bachelor's Degree - CPA: 3.56/4 — *Sep,2019 - Sep, 2023*

Chi Linh High School — **Vietnam**
High School Diploma - Specialized in Physics — *Sep. 2016 – Jun. 2019*

AWARDS

- **Third prize** in **Hai Duong Provincial Physics Excellence Contest (2016)**
- **A-level Scholarship** in the 2020, 2021 semesters at **Hanoi University of Science and Technology** a scholarship of excellence given to the top 3% of distinguished students for each major, based on criteria of training and academic attainments; and B-level scholarship in the 2020.1 semester
- Participated in **The 40th Student Research conference Year 2022-2023** at **Hanoi University of Science and Technology**

PUBLICATIONS

- H. H. Nguyen, Q. T. Le, V. Q. Nghiem, **M. S. Hoang**, D. A. Pham "A novel violence detection for drone surveillance system", *4th International Conference on Communication, Circuits, and Systems*
- H. H. Nguyen, V. Q. Nghiem, **M. S. Hoang**, T. K. Nghiem, N. M. Dang "A Novel Variant of Yolov7-Tiny for Object Detection on Aerial Vehicle Images", 5th International Conference on Communication and Intelligent Systems (**Accepted**)

TECHNICAL SKILLS

- Programming Languages: **Python, C/C++, Javascript**
- Frequently-used Frameworks Tools: **Pytorch, Tensorflow, PaddlePaddle, OpenCV, Flask, Django, ReactJs, React Native, ExpressJS**
- Developer Tools: **Docker, Git, Postman**
- CI/CD: **Jenkins, Heroku, Gitlab**
- Cloud service: **AWS, S3, EC2, Lambda**
- Database: **PostgreSQL, MongoDB**
- Vector database: **ChromaDB, FAISS**
- Operator systems: **Linux, Windows**

WORK EXPERIENCES

EDABK Research Lab at the University of Engineering and Technology, Hanoi University — **Hanoi, Vietnam**
Student Researcher — *Oct. 2022 – Present*

- Researched and developed a real time violence detection from drone algorithm based on yolov3 architecture with suitable model's architecture modifications. Deployed on Rasberry Pi model 3B to demonstrate the real-time processing feature.
- Researched and developed new light weight model based on yolov7-tiny architecture, Attention mechanism and Focal Loss for Small Object detection in Visdrone Dataset.
- Researched and developed an audio deepfake tool using Text to Speech and Speech to speech method with modern model like ViTs and CycleGAN.
- Implement simple audio deepfake detection by transfer learning Vggish model, accuracy reach 92%
- Deploying a deepfake face detection model on Samsung mobile device, automatically identifying and running the model upon receiving a video call.

ISOFH, JSC - Innovative Solution For Healthcare — **Hanoi, Vietnam**
Fullstack AI Developer — *March. 2022 - Present*

- **Computer Vision**: Researching, developing, and deploying deep learning models for medical image diagnosis, healthcare application on edge device include:
  - Analyzing and identifying brain tumors and diagnosing brain tumors based on MRI brain images;
  - Segmenting lesions and diagnosing pneumonia in flat chest CT images.
  - Building an Age Estimation model for Vietnamese individuals to automatically estimate age, thereby suggesting meditation session durations.
  - Developing and deploying deep learning models at the edge, adjusting meditation postures for users based on pose estimation.
  - Building a facial recognition system for automated patient check-in kiosks deployed at Sakura project hospitals.
- **Natural Language Processing**: Researching and building Vietnamese Chatbot applications, Large Languages Model
  - Building Chatbot for Admissions at the School of Electrical Engineering, Hanoi University of Science and Technology. Using DietClassifier, Transformer architecture. Optimize the model with Large Language Model Featurizer like PhoBert, GPT-2, ViSpacy .... Model accuracy gain 97% on the private dataset for admissions with about 864 intents.
  - Building end to end project RAG agent building system. Allow Enterprise user to build their AI Agent that has knowledges about Enterprise private uploaded documents.
  - Experienced NLP tasks: Text processing, information retrieval, name entity recognition, sentiment analysis, and machine translation.
- **Software Development**: Proficiently utilizing various technologies to develop and maintain web, mobile app projects within the **IVIRSE Digihealth Ecosystem, a blockchain-based digital healthcare platform**, include: IVIRSE payment gateway, IVIRSE Datamarket place, IVIRSE APP, CMS management system.

ACADEMIC ACTIVITIES

AI RESEARCHER - EDABK **Hanoi, Vietnam**
Researcher - EDABK Lab *Jan. 2020 - Present*
- Accumulated knowledge on computer vision: semantic segmentation, object detection, pose estimation

DEEP LEARNING COURSE COURSERA **Hanoi, Vietnam**
Scholar *Aug. 2022 - Sep. 2022*
- Joined and completed an intensive AI training program focusing on computer vision by Andew Ng.
- Joined and completed an course with theory about fedeared learning system and practice with pytorch.

REFERENCES

(1) Dr. Nguyen Huy Hoang, Lecturer of the Department of Communication Engineering
School of Electrical and Electronic Engineering, Hanoi University of Science and Technology
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