Van-Loc Nguyen

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https://scholar.google.com/citations?user=39z1A1IAAAAJ&hl=en

EDUCATION

Master of Artificial Intelligence   Ho Chi Minh City | Dec 2024 - Present
UNIVERSITY OF SCIENCE, VNUHCM

Bachelor of Information Technology, Honors Program   Ho Chi Minh City | Oct 2020 - Oct 2024

UNIVERSITY OF SCIENCE, VNUHCM
GPA: 3.88/4.00
Graduation Type: Excellent (High Distinction)
Thesis Title: Fake News Analysis and Detection
Thesis Score: 10.00/10.00

WORK EXPERIENCE

SARITASA VIETNAM | BACKEND DEVELOPER (PYTHON - DJANGO)   Ho Chi Minh City | June 2023 - Present

- Develop, optimize maintain the backend side for several projects, with a significant number of users in the US market, in Django and Django REST Framework, combined with PostgreSQL and Celery.
- Strictly follow the coding convention and structure.
- Experienced with task management and team communication in Jira, understand Software Development Life Cycle.
- Familiar with Postman for API verification.
- Familiar with Version Control System, especially Git, be aware of Git flow and GitHub flow.
- Experienced with DevOps tools such as Kubernetes or Teleport.

SARITASA VIETNAM | PYTHON DEVELOPER INTERN   Ho Chi Minh City | March 2023 - May 2023

- Be trained with essential skills for a back-end developer, especially for Python with Django, Docker usage, and PostgreSQL.
- Follow strict coding conventions (PEP8) for the code to be cleaned.

PUBLICATIONS

AN APPROACH TO COMPLEX VISUAL DATA INTERPRETATION WITH VISION-LANGUAGE MODELS ↗
                                                                        DECEMBER 2024
Our research adapted the MMMU benchmarks and utilized prompt engineering with a voting-based ensemble method to enhance Large Vision-Language Models' performance on complex visual data interpretation, achieving a top score of 0.85 in the LAVA Workshop 2024 challenge.
This paper was published as a poster presentation at the 1st Large Vision - Language Model Learning and Applications Workshop, ACCV 2024.

AI-ENHANCED PHOTO AUTHENTICITY: A USER-FOCUSED APPROACH TO DETECTING AND ANALYZING MANIPULATED IMAGES ↗
                                                                        AUGUST 2024
This paper introduces an AI-assisted system that enhances human expertise in photo authentication by detecting manipulations, localizing areas of interest, and empowering users to efficiently verify photo authenticity, aiming to bridge the gap between AI capabilities and human judgment in digital forensics..
This paper was published as an oral presentation at the 7th International Conference on Multimedia Analysis and Pattern Recognition (MAPR) 2024.

A HYBRID APPROACH FOR CHEAPFAKE DETECTION USING REPUTATION CHECKING AND END-TO-END NETWORK ↗
                                                                        JULY 2024
This research highlights the immense promise of using our proposed hybrid method in the fight against Cheapfakes, making a significant contribution to preserving the integrity of multimedia content.
This paper was published as an oral presentation at the 1st Workshop on Security-Centric Strategies for Combating Information Disorder, ACM AsiaCCS 2024.

A UNIFIED NETWORK FOR DETECTING OUT-OF-CONTEXT INFORMATION USING GENERATIVE SYNTHETIC DATA ⬈   June 2024

This paper highlights the notable potential of employing an end-to-end network for Cheapfakes detection, which composes a significant contribution to the advancement of multimedia content integrity.
This paper was published as a poster at the ACM ICMR 2024.

TRANSPARENT TRACKING OF SPERMATOZOA WITH YOLOV8 ⬈   Feb 2024

A research for pointing out an efficient method for detection and tracking of spermatozoa, with YOLOv8 trained on a a COCO-format dataset.
This paper was published at the MediaEval 2023 Workshop, co-located with MMM 2024.

PROJECTS

FAKE NEWS ANALYSIS AND DETECTION ⬈   Computer Vision, Deep Learning

Feb 2024 - Aug 2024
Undergraduate thesis at the University of Science, VNUHCM.
Main contributions:

- Propose the usage of an end-to-end network of Visual Entailment task to solve both 2 tasks of cheapfakes detection.

- Cheapfakes data augmentation method with LLMs.

- Reputation checking the image over the Internet to utilize social information.

- An open system to assist users in fake news analysis and detection with the help of an external forensic framework.

The results of this thesis are published at ICMR 2024, SCID 2024, and MAPR 2024.
Demo repo for thesis here.

CONNECT ⬈   ReactJS, Django REST Framework

Sep 2023 - Jan 2024
Project for **Software Architecture** course.
An application that stimulates Telegram, which allows users to chat, and send files. The back end is implemented with Django REST Framework, while the front end is implemented with ReactJS.
Role: Project manager, back-end developer.
Front-end repo here.

MINI SHOPPING ⬈   Java, Mobile Development

Nov 2022 - Jan 2023
Project for **Mobile Development** course.
A mobile application for e-commerce, allows users to buy online products.
Role: Client programmer, client-server connection programmer.
Server link here.

PC CONTROL VIA EMAIL ⬈   Python, Socket Programming

May - Jun 2022
Project for **Computer Network** course.
A program that allows users to remotely control their computers using their emails, by sending emails to a specific mail address, they can require their computers to capture screenshots, turn on/turn off a process, keylogger, shut down, restart their computers, etc. This app is implemented using concepts of socket programming.
Role: Socket programmer, Tester.

CHESS GAME ⬈   C++, Object - Oriented Programming, SFML

Oct - Dec 2021
Project for **Object-Oriented Programming** course.
An offline game that allows people to play PvP chess, which provides a GUI for them to have chess games with each other. This app is implemented with concepts of object-oriented programming: encapsulation, polymorphism, inheritance, and abstraction, with GUI implemented in SFML library.
Role: Main developer, Leader.

SEARCH ENGINE ⬈   C++

Jun - Jul 2021

Project for **Arts of Programming** course.
An application that allows users to search for a string in a given data set of text files, using TF/IDF and merge sort to pre-process data set, then perform O(1) search operations.
Role: Developer.

BIG INTEGERS ↗   C++
May 2021
Project for **Arts of Programming** course.
An application that performs arithmetic operation (addition, subtraction, multiplication, division, exponentiation), logic operation (and, or, xor, not), check prime, etc on Big Integers (at least 128 bits).
Role: Developer.

SKILLS

Artificial Intelligence: Machine Learning, Deep Learning, Computer Vision
Programming Languages: C, C++, Python, Java, R, SQL
Web Development: Django, Django REST Framework
Technology: Git, LaTeX, SQL Server, Jupyter Notebook, Android Studio, Postman, Kubernetes, Docker, Google Colab, Kaggle
Languages: Vietnamese (Native speaker), English (IELTS 7.0 in 2019)

CERTIFICATION & AWARDS

Third Prize The 26th Student Scientific Research Award - Euréka (2024)
Third Prize 2024 "AI City Challenge" (AIC) of Ho Chi Minh City
Certificate of Satisfactory Progress from President of Vietnam National University Ho Chi Minh City for high distinct graduation
Certificate of Merits from President of University of Science, VNUHCM for Excellent Student Group in Scientific Research
Top 18 "Thach Thuc" Academic Competition, FIT@HCMUS, 2023 & 2024
Deep Learning: Deep Learning Specialization - Andrew Ng
Machine Learning: Machine Learning Specialization - Andrew Ng
Data Science: IBM Data Science Professional Certificate
Scientific Writing Writing in the Sciences - Stanford