

YANG TUẤN ANH

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EDUCATION

- VNUHCM - University of Science, Ho Chi Minh City, VN** **Oct 2021 – Aug 2025**
- Bachelors of Science – Advanced Program in Computer Science **GPA: 3.82**
 - Coursework:* Data Structures & Algorithms, Database Systems, Software Engineering, Calculus, Linear Algebra, Statistics, Group Theory, General Physics, Communications Management, Ethics in Technology, Operating Systems, Computer Graphics, System Design, Computational Finance, Machine Learning, Natural Language Processing
 - Honors:*
 - Top-10 GPA Academic Merit Scholarship for Semester 3 of 2021-2022
 - Outstanding Student in the Academic category for the Sinh Viên 5 Tốt award, University level
 - University representative for the Mathematical Competition in Modelling 2025
- National University of Singapore, Singapore** **Aug – Dec 2023**
- Non-graduation, School of Computing
 - Coursework:* Theory of Computation, Computer Vision, Design & Analysis of Algorithms, Intro to Info Security
 - Honors:* Top 10 Southeast Asian student candidates for the NUS ASEAN Master's Scholarship
- Kyoto Institute of Technology, Kyoto, Japan** **Jan 2023**
- Faculty of Information and Human Sciences
 - Coursework:* Deep Insight in Industrial IoT (IioT)
 - Honors:* 1 of 3 HCMUS representatives for the student exchange among South East Asia to attend KIT's Japan Online Spring School 2023, understanding intercultural differences and strengthening ties between HCMUS and KIT
- VNUHCM - High School for the Gifted, Ho Chi Minh City, VN** **2018-2021**

EXPERIENCE

- Autonomous Inc | AI Engineer, Ho Chi Minh City** **Jun 2024 - Ongoing**
- Implemented the core logic of neural network models in Solidity for our blockchain products.
 - Problem setter for an unrevealed Solidity programming contest similar to LeetCode.
 - Developed features for a decentralized AI agent factory with social and knowledge capabilities, attracting 500 users.
 - Developed a semantic knowledge base service with FastAPI, Milvus and sentence embeddings for RAG agentic AIs.
- Autonomous Inc | Software Engineer Intern, Ho Chi Minh City** **Jun – Jul 2023**
- Researched generative algorithms such as Perlin noise, cellular automata, fractals and computational geometry
 - Worked on a generative art collection on terrain map generation, as part of contribution towards <https://generative.xyz/>
 - Learned and utilized P5.js and WebGL to build and design generative art models
- LEAN Platform | Software Engineer, Remote** **Jun 2022 – Mar 2023**
- Engineered alongside an MVP, ranked top 4 in global and top 3 in local startup competitions, setting the foundation for product launch and creating direct study engagement for more than 1000 youths (<https://app.lean.social/>)
 - Assisted in data collecting and sampling for the webapp's machine Learning model – Study drowsiness detection
 - Learned and utilized NextJS, TailwindCSS, Mobx to build study streaming tools and controls for Lean Social webapp
- Tiki Company Limited | Software Engineering Intern, Ho Chi Minh City** **Jul– Sep 2022**
- Developed demo applications for various components as demonstration for Tini App – a JS Framework by Tiki
 - Collaborated in a cross-functional team of 6 engineers to develop software for third-party investors
 - Learned and utilized React, NextJS, Typescript and NodeJS to contribute development in Tini App

LEADERSHIP & ACTIVITIES

- VNUHCM-University of Science | Ho Chi Minh City, VN** **(Oct 2021 – Ongoing)**
- SAB Academy |** Development Team Leader & Event Operation member
 - Google Developer Student Club – HCMUS |** Backend Specialist
 - Design ITUS |** Graphic Design Member - Academic Club of Design, Faculty of IT (Nov 2021- Oct 2023)
 - Mùa Hè Xanh campaign |** Ong Nghiên Cứu team – IT-Electronics sub team, creating and developing projects and lectures about Computer Science related topics to students around HCMC (Jun – Jul 2022)

- **Xuân Tình Nguyễn campaign** | Ong Nghiên Cứu team – Toán-Tin sub team, creating and developing projects and lectures about Computer Science related topics to students around HCMC (Jan 2024)

ProjectX – Mentorship & Operation, Tech & Product Associate – a non-profit fellowship program to connect tech startups with the best talents and offer mentorship, career orientations, and technical/soft-skills training through events/workshops and building communities for high-caliber students (Nov 2023 - Ongoing)

Hanoi Math Modelling Competition – Research Department – a national-scale project on research and development of mathematical applications for high school students, including competitions and lectures, running since 2015 and with 11.000 followers on Facebook (May 2022 – May 2024)

STEAM for Vietnam | Teaching Assistant, Remote

Feb 2022 – Ongoing

- Managed interns for STEAM For Vietnam's Summer Internship Program – a 2-month program on technological soft skills, insights into the tech industry and developing projects in groups, which sets opportunities for professional growth
- Generated and initiated ideas for future class curriculums, on Basic CS in Python, and Game Development on Pygame
- Operated technical sites for live classes, ensuring a smooth and effective experience for students and instructors

PUBLICATIONS & APPEARANCES

- [MOB-GCN: A Multiscale Object-Based Graph Neural Network for Hyperspectral Image Classification](#), Feb 2025 (first author, manuscript completed)
Tuan-Anh Yang, Truong-Son Hy, Phuong D. Dao
- [“Optimizing Sperm Detection and Tracking in Fluids with Equalize Class Representation Augmentation”](#), MediaEval workshop, MMM 2024, Jan 2024 (Distinctive Mention Award)
Trong-Hieu Nguyen-Mau, Quoc-Huy Trinh, Ngoc-Linh Nguyen-Ha, Tuong-Vy Truong-Thuy, Tuan-Anh Yang, Hai-Dang Nguyen, Ngoc-Thao Nguyen, Minh-Triet Tran
- [“Deep Learning Hierarchical Methods for Insect Pest Recognition on Plants”](#), SoICT 2023, Oct 2023
Tuong-Nghiep Diep, Thien-Phuc Tran, Tuan-Anh Yang, Vinh-Phat Ho-Ngoc
- [“Sketch-based 3D Animal Fine-Grained Retrieval \(SketchANIMAR\)”](#), Computers & Graphics, Jul 2023
Trung-Nghia Le, Tam V. Nguyen, Minh-Quan Le, Trong-Thuan Nguyen, Viet-Tham Huynh, Trong-Le Do, Khanh-Duy Le, Mai-Khiem Tran, Nhat Hoang-Xuan, Thang-Long Nguyen-Ho, Vinh-Tiep Nguyen, ..., Tuan-Anh Yang, ..., Akihiro Sugimoto, Minh-Triet Tran
- [“Text-based 3D Animal Fine-Grained Retrieval \(TextANIMAR\)”](#), Computers & Graphics, Jul 2023
Trung-Nghia Le, Tam V. Nguyen, Minh-Quan Le, Trong-Thuan Nguyen, Viet-Tham Huynh, Trong-Le Do, Khanh-Duy Le, Mai-Khiem Tran, Nhat Hoang-Xuan, Thang-Long Nguyen-Ho, Vinh-Tiep Nguyen, ..., Tuan-Anh Yang, ..., Akihiro Sugimoto, Minh-Triet Tran
- “Gamified solution to enhance students' interest in History - Immersion Learning and Gamification”, International Science Student Forum – HCMC 2022, Nov 2022 (Best Paper Award)

TECHNICAL PROJECTS

[Geo-Contextual Embeddings and Label Propagation for Commuting Flow Prediction: Investigating the Impact of the Francis Scott Key Bridge Collapse on Baltimore Traffic and Bus Route Optimization](#)

Jan 2025

- A comprehensive analysis of Baltimore's transportation challenges, focusing on the impact of the Francis Scott Key Bridge collapse and public transit optimization, submission for the Interdisciplinary Contest in Modeling 2025.
- Developed a novel approach combining Exponential Moving Average (EMA) modeling for traffic flow prediction and Geo-contextual Multitask Embedding Learning (GMEL) for optimizing bus routes.
- Identified key areas for transit improvement using label propagation and graph attention networks and designed six new bus routes optimized for both efficiency and safety.

[Low-Resource Chinese-Han Vietnamese Translation with mT5 and Backtranslation](#)

Nov – Jan 2025

- Fine-tuned a mT5 model tailored for Chinese-Han Vietnamese translation, addressing the challenges of data scarcity and linguistic diversity, achieving BLEU scores of 70.1.
- Enhanced the model with a sampling-based backtranslation method that leverages extensive monolingual corpora.
- Proposed a corpus construction strategy using LASER embeddings and the Hungarian Matching Algorithm to extract parallel sentences from bilingual news sources.

[MnemeAI Smart Note Assistant - AI Developer](#)

Mar 2024 – Ongoing

- A web application designed to assist users with note-taking, task management, and calendar integration, won 4th place for the HCMUS AI Innovation Hackathon.
- Integrated LLMs and Retrieval-Augmented Generation (RAG) from pgvector to process user inputs, generate relevant outputs, and retrieve information from the knowledge base, served from Notion's API.
- Deployed a CI/CD Pipeline with AWS EC2 and Docker containerization, ensuring production-ready stability.

Unlocking Tennis Dynamics: Analyzing Momentum, Predicting Swings and Beyond - MCM 2024 **Feb 2024**

- Providing a comprehensive framework for modeling and predicting tennis match dynamics using scoring data, submission for the Mathematical Contest in Modeling 2024
- An adapted Markov Chain model using a Bradley-Terry formulation to capture evolving player performance
- Perform correlation analysis between momentum and game results with deep neural network models such as RNN, GRU, and LSTM to develop probabilistic models guided by the stochastic deterministic formulations.

SNORD - Backend Developer **Mar – May 2024**

- An electronic cigarette solution empowering user to seamlessly monitor and regulate their smoking habits through innovative hardware and a user-friendly mobile application.
- Designed API endpoints using Golang and Firebase for device access and statistical processing.
- Deployed a CI/CD Pipeline with GCP Compute Engine and Docker, ensuring production-ready stability.

Modelling Kangaroo Care – SCUDEM 2023 **Nov 2023**

- Construct a differential equation modelling KMC interactions with Convolution and Ecological Functional Response
- Addressed important factors contributing in infant mortality, modelling irregular caring patterns and its impacts
- Provided insights and limitations of the model for KMC practitioners

FoodFeed - Backend Developer **Sep – Nov 2023**

- An Android app that can help people share food locations and help them make reasonable decisions for their eating.
- Designed API endpoints using Django, PostgreSQL, S3 and Redis on social media features such as user authentication and post CRUD, query and manipulating food and shop data based on fuzzy matching algorithms and geolocation.
- Deployed a CI/CD Pipeline with AWS EC2 and Docker containerization, ensuring production-ready stability.

Clip The Trigger: YOLO-CLIP for Gunpoint Gaze – Computer Vision Engineer **Sep – Nov 2023**

- NUS CS4243 project to solve weapon presence binary classification - received 9.75/10 for Methodology & Results
- Developed a YOLOv8 - CLIP ensemble, with a novel data augmentation technique for equalizing class representation
- Applied PyTorch, OpenCV, LabelStudio, HuggingFace Transformers, Ultralytics to experiment and implement models

Stasy – ML Engineer **Aug – Sep 2023**

- Translates a .pdf file, preserving the original layout of that .pdf file using MaskRCNN, and EasyOCR for tabular format detection, and envit5-translation for file translation. Achieved Second Prize of the Cinnamon AI Bootcamp 2023.
- Developed the Frontend with NextJS and TailwindCSS, and served inference via Django, Firebase and PostgreSQL.
- Deployed a CI/CD Pipeline with AWS EC2 and Docker containerization, ensuring production-ready stability

MyThorch – Fullstack Web Developer **Mar 2023**

- Top 4 Finalist submission to the OpenAI Stack Hackathon - a document interaction app that leverages user behavior. Constant data collection helps to adapt to the user's needs for a personalized experience.
- Used React for the frontend and Flask for the backend, GPT-3 generates personalized documents based on user focus, while Redis stores previous interactions to reduce token input.

Trassify - Mobile Developer **Nov 2022**

- Third place submission to VNUHCM University of Information Technology's Game UIT Hackathon, hosted by the Software Engineering faculty - a recyclable trash detection app, with monetized incentives to encourage recycling.
- Trained a VGG-16 model to classify recyclable trash types, and developed a functional user interface and execute trash classification via phone camera.
- Utilized Flutter and Tensorflow Lite in project development, with Github for project management.

COMPETITIONS & AWARDS

- Silver Medal (Top 8%) - IYMC 2024 – Maths Olympiad - International **Feb 2025**
- Second place - National Innovation & Startup Competition, CCU – Hackathon - International **Nov 2025**
- Fourth place - HCMUS AI Innovation – Hackathon - University **Oct 2024**
- Top 25/200 – Da Nang Code League, Regular Track – Competitive Programing - National **May 2024**
- Semi Finalist – HCMUS Thách Thức – Academic competition - University **Apr 2024**
- Top 15/500 – GDSC Hackathon Vietnam - Hackathon - National **Feb 2024**
- Outstanding Award – SCUDEM 2023 - International **Dec 2023**
- Silver Medal (Top 5%) - IYMC 2023 – Maths Olympiad - International **Nov 2023**
- Top 5/7000 - Redis Side Quest, Lablab.ai - Hackathon - International **June 2023**
- Scholarship – DiscoverNUS Exchange Program – Scholarship **May 2023**
- Top 4/7000 - OpenAI Stack Hackathon, Lablab.ai – Hackathon - International **Mar 2023**
- Best Paper - International Student Science Forum, HCMC, 2022 – Conference - National **Nov 2022**
- Third Place out of 300, GameUIT Hackathon, VNUHCM UIT – Hackathon - Provincial **Nov 2022**
- Silver Medal (Top 10%) - IYMC 2022 – Maths Olympiad - International **Dec 2022**
- Third Place out of 30, IT Hackathon, GDSC HCMIU – Hackathon - Provincial **Jul 2022**
- Top 30 semi-finalist, Tiki Hacking Trail 2022, Tiki – Hackathon - National **Jun – Jul 2022**
- First Place - Engaholic English Competition, HCMUS – English competition - University **Apr – May 2022**
- Regional finalist, Youth IT Competition (Tin học trẻ) – Informatics Olympiad - Regional **Apr – Dec 2021**
- Finalist, Hanoi Mathematical Modelling Contest 2021 – Mathematical Modelling - National **Aug – Nov 2021**
- Qualifier, ICPC Vietnam Southern Round – Informatics Olympiad - Provincial **Dec 2021**
- Third place, HSG Regional Round in Informatics – Informatics Olympiad - Provincial **May 2018**

SKILLS

Programming Languages: C/C++, Python, Java, SQL, Dart, JavaScript, Golang, Solidity, R, Julia

Frameworks/Tools: TailwindCSS, NextJS, Express, Flask, Django, FastAPI, PostgreSQL, Firebase, MongoDB, Redis, Tensorflow, Pytorch, Keras, Langchain, OpenCV, Flutter, Android Studio, Docker, AWS, GCP

Languages: English (fluent, 7.5 IELTS), Vietnamese (native speaker), Chinese (beginner), Spanish (beginner)