

Nguyen Cao Duy

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EDUCATION

National University of Singapore (NUS)

Bachelor of Computing (Hons) in Computer Science, Second Major in Data Analytics

Aug 2022 - Present

GPA: 4.93/5.0

EXPERIENCE

National University of Singapore

Undergraduate Teaching Assistant (Discrete Structures, Data Structures and Algorithms)

Aug 2023 - Present

Singapore

- Conducted weekly sessions for 20-30 students, clarifying complex computer science and mathematical concepts
- Covered topics such as logic & proof techniques, relations & functions, counting & combinatorics, design & analysis of fundamental data structures and algorithms

CVWO - Computing for Voluntary Welfare Organisations

Full Stack Developer Intern

May 2023 - Aug 2023

Singapore

- Leveraged React, TypeScript, Golang and PostgreSQL to upgrade a multi-tenancy system used by over 400 social workers across 11 Active-Aging Centres to improve operational efficiency and administrative tasks, including the management of 15,000 elderly clients
- Developed an admin dashboard for easier cross-centre management for large agencies such as Care Corner
- Developed a low-code solution using GORM for CVWO developers to build custom reports for different centres quickly, reducing the time taken for a developer to create reports from days to hours using a single SQL query

A*STAR - Institute for Infocomm Research

Natural Language Processing Research Intern

Jan 2022 - Apr 2022

Singapore

- Crawled 1 million pairs of English-Vietnamese sentences using BeautifulSoup and Selenium
- Trained a transformer model using Fairseq for Vietnamese Neural Machine Translation Engine (40+ BLEU score)
- Explored different quality estimation models to evaluate translation quality automatically with good correlation to human evaluation

PROJECTS

PayDay - Mobile Wallet App

TikTok Hackathon Challenge Finalist

Sep 2023

- A mobile e-wallet system integrating with Stripe paying and payout channels on React Native, Node.js and Firebase
- Noteable features include email OTP verification, guardian notification, and risk evaluation for each account

Object Detection and Audio Classification

DSTA BrainHack TIL AI Camp

Jun 2021

- Fine-tuned a YOLOv5 model to draw bounding boxes of animals in photos with high mean Average Precision score
- Fine-tuned an ensemble of ResNet, DenseNet, and VGGNet to classify animals' sounds from audio files
- Attained 1st Runner-Up in High School Category

Address Elements Extraction

Shopee Code League - Data Science Challenge

Mar 2021

- Fine-tuned a named-entity recognition (NER) model using IndoBERT to extract Point of Interest (POI) Names and Street Names from noisy Indonesia addresses data provided by Shopee users (Kaggle Ranking: 1/1034)
- Attained 3rd overall in Student Category after 3 challenges in Data Analytics, Data Science, and Algorithms

MathDoodle

NTU SCSE Computing Challenge

Jan 2021

- Fine-tuned a computer vision model to solve handwritten maths expressions (Kaggle Ranking: 1/27)
- Designed an interactive website using Python and Streamlit to enhance children learning experience in mathematics
- Attained top 5 overall and Young Innovator Award for creative approach

AWARDS

- ASEAN Undergraduate Merit Scholarship
- Citadel - Correlation One APAC Regional Terminal 2023 - 3rd place
- NUS Quantitative Finance Society - Optiver Tradestastic 2023 Finalist (Top 30)
- GIC Computing for the Community Fellowship Award
- NUS Top Students in Discrete Structures, Data Structures and Algorithms, Programming Methodology II
- National Olympiad in Informatics 2019, 2020, 2021 - Silver Awards
- Singapore Mathematical Olympiad 2020, 2021 - Silver Awards

TECHNICAL SKILLS

Programming Languages: C++, Python, Golang

ML/AI: Pytorch, Pandas, Seaborn

Web Technologies: React, Flask

Miscellaneous: Git, LaTeX

ADDITIONAL EXPERIENCE

Problem Writer, Vietnamese Olympiad in Informatics Community:

Wrote 10+ competitive programming problems on VNOI Online Judge

2021 - 2022