

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

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 of paired 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

Object Detection and Audio Classification

Jun 2021

DSTA BrainHack TIL AI Camp

- 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

Mar 2021

Shopee Code League - Data Science Challenge

- 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

Jan 2021

NTU SCSE Computing Challenge

- 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

Other Projects

- **Product Detection:** Classify Shopee products from a noisy dataset using EfficientNet (Kaggle Ranking: 23/824)
- **Email Campaign Analysis:** Predict if users open emails sent by Shopee using XGBoost (Kaggle Ranking: 27/368)

AWARDS

- ASEAN Undergraduate Merit Scholarship
- 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
- Singapore Physics League 2021 - Silver Award

TECHNICAL SKILLS

Programming languages: C++, Java, Python, R, Javascript, Golang, Ruby

Web Technologies: React, Flask, Ruby on Rails

ML/AI: fast.ai, Pytorch, Scikit-learn, Numpy, Pandas, Matplotlib

Miscellaneous: OOP, CLI, SQL, Git, LaTeX

RELEVANT COURSEWORK

Mathematics: Discrete Structures, Linear Algebra I, Calculus for Computing

Data Science: Introduction to Data Science

Computer Science: Programming Methodology I/II, Data Structures and Algorithms

MOOCs: Deep Learning Specialization (Coursera), Natural Language Processing Specilization (Coursera)

ADDITIONAL EXPERIENCE

Problem Writer, Vietnamese Olympiad in Informatics Community:

2021 - 2022

Wrote 10+ competitive programming problems on VNOI Online Judge