

# Ngo Phuong Nhi

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## EDUCATION

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### Grinnell College

BA double majors in Computer Science (with Honors) and Mathematics, GPA: 3.83/4.00

Iowa, USA

May 2020

### Selected Courseworks

- Basic Machine Learning, Deep Learning, Computer Vision
- Software Development, Analysis of Algorithms, Object-Oriented Design
- Linear Algebra, Graph Theory, Probability and Statistics

## WORK EXPERIENCE

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### AI Engineer Intern

VinAI Research

March 2021 – Present

Hanoi, Vietnam

#### Tiny Object Detection

Python, PyTorch, MMDetection

- Performed exploratory data analysis. Augmented data to increase data diversity and resolve class imbalance.
- Did research on models detecting tiny objects: FPN, Cascade RCNN, HRNet, ...
- Built, trained and evaluated models using MMDetection framework to achieve best performance.
- Participated in VisDrone2021 challenge on tiny object detection, achieving mAP = 22.14 on test set.

#### Image-to-Image Translation

Python, Tensorflow, PyTorch

- Did research on image-to-image translation models and GAN models.
- Built a data set of driving scenes in the summer (4500 images) and in the winter (3800 images).
- Used GAN models to translate driving scenes from summer to winter and vice versa.

#### Traffic Sign Detection

Python

- Built tools to analyse and visualise prediction results from traffic sign detection models.
- Applied active learning to build tools for querying images containing the most information to support model training.

### AI Engineer Intern

Vingroup Big Data Institute

November 2020 – March 2021

Hanoi, Vietnam

#### Traffic Sign Detection

Python, Tensorflow

- Did research on object detection models: SSD, Faster R-CNN, Yolo, ...
- Performed traffic sign detection on Zalo AI Challenge 2020 data set using models from Tensorflow Object Detection API, achieving mAP = 38 on test set.

#### Face Recognition Attendance System

Python, PyTorch, Scikit-Learn, Flask, HTML

- Collected images and built a data set of 900 faces of 30 people.
- Built a face recognition model using InsightFace for face embedding extraction and ANN model for recognition.
- Developed a web application for the attendance check system using Flask and HTML.

### Software Developer Intern

FPT Smart Cloud

August 2020 – November 2020

Hanoi, Vietnam

- Wrote API to query chatbot data for customers using Django.
- Developed a webview to order pizza, requested by PizzaHut using Vue and Node.js; created payment gateway module for Onepay and Momo; wrote API to summary orders and customers for PizzaHut.

## SKILLS

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### Key Skills

- Object Detection Models, Machine Learning Algorithms, Model Development, Model Validation, Active Learning
- Data Visualisation, Data Analysis

### Technical Skills

- **Languages:** Python, Java, C, SQL, MongoDB, HTML/CSS
- **Frameworks:** mmdetection; Flask, Django, Vue, Node.js
- **Packages:** Pandas, NumPy, Scikit-Learn, Tensorflow, PyTorch