



NHUT-NAM LE

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## EDUCATION

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**Ho Chi Minh University of Science (HCMUS)**, Ho Chi Minh City, Vietnam 08.2020 – Present

*BS-MS Program in Computer Science*

*Major in Computer Science (Graduated) - Anticipated Graduation Date: 2024*

*Research directions:* Representation Learning on Graphs, Graph Neural Network and Graph Mining

**Ho Chi Minh University of Science (HCMUS)**, Ho Chi Minh City, Vietnam 08.2018 – Present

*Bachelor's Science degree in Information Technology (IT)*

*Major in Computer Science (Undergraduate) - Anticipated Graduation Date: 2022*

*GPA: 7.95/10.0 (Full Official Transcript)*

## PERSONAL PROJECTS

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### **Applied Deep Learning for Breast Classification - Science Research Method**

- Description:
  - In project, we will using Deep Learning, especially Transfer Learning with ResNet to classify breast cancer image (IDC Image)
  - In final result, we got a good accuracy for this problem, about 86% with our best model
  - We also wrote a small paper in Vietnamese to report and presentation our results.
- Using Python 3 (Jupyter Notebook)

### **SincNet presentation**

- Description:
  - In Introduction to Machine Learning Class, we present about the problem when processing speech signal, the idea and the architecture of SincNet
  - In Recognition Class, we cover the traditional methods of voice biometrics, the identification features as well as some case study. Beside that, we also cover the state of the art of voice biometrics in recent years, with five related works in features extraction (d-vectors, j-vectors and x-vectors), in speaker classification by using Deep Learning such as multi-features domain and the SincNet Architecture.
- Using Python 3 on Google Colab

### **Classification Project - Intro ML Course HCMUS**

- Description:
  - Visualize and Analyze Plant Pathology data
  - Data Preprocessing and Data Visualizaion with Python 3 (Matplotlib, Seaborn, Pandas)
  - Experimental: Setup and training Neural Network to classify leaf diseases
  - Testing and found very good results: With the Transfer Learning method with ResNet18, 34, 50 and EffcientNet B5 networks, the problem of disease leaf classification has been solved well with a relatively high accuracy after 5-fold of more than 97%, with the technique of using dropout , K-Fold Cross Validation ensures minimizing, avoiding overfitting
- Using Python 3 on Google Colab

### **Regression Project - Intro ML Course HCMUS**

- Description:
  - Visualize and Analyze Medical Insurance Cost data
  - Data Preprocessing and Data Visualizaion with Python 3 (Matplotlib, Seaborn, Pandas)
  - Analyze the correlation between features in Medical Insurance Cost data Experimental some Regression Algorithms with implemented in Python 3 such as Linear Regression, Ridge Regression, Lasso Regression, Random Forest Regressor and Polynomial Regression
- Using Python 3 on Google Colab

### **Intro NLP Final Project**

- Description: Build an simple Add-in for Microsoft Word to tokenization and statistical words.
- Programming language: JavaScripts
- Framework: Office Add-ins for MS Office

### **Analysis for National High School Graduation Exam 2018**

- Description: Collecting and visualization data to investigate information in data, find cheating in exam at Ha Giang in 2018.
- Programming language: Python 3/ Jupyter Notebook

### **Wine Dataset Classification using Linear Discriminant Analysis**

- Description: Implementation Linear Discriminant Analysis on Wine Dataset.
- Programming language: Python 3/ Jupyter Notebook

### **A small Java Chat Application**

- Description: Desktop chat app using Java Swing, Networking, Multi-threading. This is Final Project for Topics in Java Application Course HCMUS.
- Programming language: Java

- Framework: Hibernate

### **A small English-Vietnamese Dictionary Application**

- Description: Project midterm of Topics in Java Application Course HCMUS, learning about some important topic Generic Programming, Collections & Swing in Java with using JetBrains IntelliJ.
- Programming language: Java

### **A small web application visualize Minimum Edit Distance algorithm**

- Description: Simple web application using HTML, CSS and JavaScripts to visualize Minimum Edit Distance algorithm.
- Programming language: JavaScripts

### **Basic implement some traditional concepts in Digital Image Processing**

- Description: Basic implement some traditional concepts in Digital Image Processing such as 1D, 2D Convolutional, Color Transformation, Geometry Transformation, Edge Detection using Sobel, Prewitt, Laplace window, Filter image in spatial domain.
- Programming language: Python 3 (using Jupyter Notebook), C++

## **EXPERTISE**

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### **Data Structure - Algorithms**

- Know and understand basic concepts of Data Structures
- Good understand about fundamentals of Algorithm

### **Programming Paradigms**

- Understand basic concepts of Object - Oriented Programming.
- Know about SOLID Principle
- Know about some popular traditional Design Patterns such as Singleton, Proxy

### **Machine Learning/ Computer Vision/ NLP**

- Familiar with OpenCV in Python 3 or C++.
- Ability to apply analytical and problem solving skills.
- Solid understanding of linear algebra, geometry, meshes, image processing.
- Familiar working with PyTorch

### **Data Visualization**

- Have a good knowledge about some algorithms for reduce and presentation data such as PCA, LDA
- Basic knowledge about data visualization libraries with Python 3 like Matplotlib, Seaborn, Plotly

## SKILLS

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- Programming Languages: familiar with using Python 3, C/C++ at intermediate level, know Java, JavaScript
- Platform: Linux (Ubuntu, Arch Linux), Windows.
- IDE - Text Editor & Tooling: JetBrains IDE (Intellij, Pycharm), VS Code, Git for Version Control.

## MISCELLANEOUS

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- GitHub: <https://github.com/nhutnamhcmus>
- Languages: English - Intermediate, Vietnamese for native speaker
- Certificates
  - Mathematics for Machine Learning: Linear Algebra
  - HackerRank Python (Basic) Certificate
  - HackerRank Problem Solving (Basic) Certificate
  - HackerRank Java (Intermediate) Certificate
  - Datacamp Python Programmer Certificate