

# Bui Thi Thanh Phuong

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## EDUCATION

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**VNUHCM - University Of Science**

*Bachelor of Mathematics and Computer Science major*

Thu Duc City

*October 2020 –Present*

## OBJECTIVE

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Throughout my learning journey, I have come to realize the importance of self-study and knowledge accumulation. Learning is a continuous process, and I aspire to continue learning new things in my field and master the application of acquired knowledge. Alongside accumulating experience, I set additional goals to constantly update myself with new methods, such as reading articles and researching advancements in those methodologies.

## TECHNICAL SKILLS

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**Programming Languages:** Python, C/C++, SQL (Postgres), R

**Tool and Framework:** Jupyter Notebook, Git, Apache Spark, Pandas, Matplotlib, SKlearn, Pytorch

**Domain Knowledge:** Language Modeling, Machine Learning, Probability and Statistics, Math concepts

**Others:** Excel, Word, Spreadsheets

## PROJECTS

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**On Retrieval-Augmented Text Generation** | *Python*

Oct 2023 – Dec 2023

- Utilize Retrieval-Augmented Generation - RAG to query and generate text to assist language models in producing more accurate responses

**PROVE THE JOHNSON-LINDENSTRAUSS LEMMA AND ITS APPLICATION IN DIMENSION REDUCTION**

- To prove the lemma, we utilize Gaussian Random Projection to demonstrate the mapping with a probability.
- Directly apply Johnson's lemma algorithm to perform dimensionality reduction on a dataset of 11,938 64×64 face images, then compare the performance of the lemma with the KNeighborsClassifier model.

**Classify customer sentiment analysis** | *Python*

Sep 2023– Oct 2023

- Using some tools in the Natural Language Toolkit library such as: Tokenization, POS tagging... to analyze text.
- Use Roberta Pretrained Model to evaluate customer reviews
- Compare the above results with star ratings using the matplotlib library

**Hotel booking demand prediction** | *Python*

Nov 2022– Dec 2022

- Constructing a supervised Machine Learning model to predict hotel room booking demand using scikit-learn and evaluating the model's performance metrics such as Decision Trees, Logistic Regression, and Random Forest. Determine the best model for solving the problem.

**Program in the Windows environment** | *C++*

June 2022– June 2022

- Create objects of the shape class and check if a point lies within that shape
- Find the intersection between two arbitrary objects and print a plus sign inside the intersection region
- Implement an algorithm using arrow keys to move one of the shapes, plus and minus keys to zoom in or out one of the images. In the Windows environment

## ACTIVITIES

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**Summer volunteer program "green summer"**

Junly 2022 – August 2022

*VNUHCM - University Of Science*

*Thu Duc City*

- Create opportunities for students to participate in exchanging knowledge of Mathematics, Physics, Chemistry, Biology, while applying problem-solving skills to real-life situations

**VIASM Mathematics Summer School**

Junly 2022 – August 2022

*VISAM*

*DakLak Province*

- Research advanced topics in Mathematics, including optimization models and linear algebra, focusing on their applications in data science