Good Afternoon, Professor!

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01

Introduce

Introduce myself, Publications, Activities, Honor and Awards

My name is HUYNH Doan Minh Ngoc

- Bachelor of Science in Computer Science
- University of Science, VNU-HCMC
- GPA: **3.82** / 4.00
- Valedictorian of the High-Quality program in Information Technology

Publications

01

Journal Q2

03

Publications

02

Papers in 02 International Conferences

Activities

01 – SheCodes Hackathon

- Held in 2020 in HCMC
- **First Place** with VGO team

02 – ICANN 2021 (rank C)

- 30th International Conference on Artificial Neural Networks
- Presentation of the accepted paper

03 – ICCCI 2021 (rank B)

- 13th International Conference on Computational Collective Intelligence
- Presentation of the accepted paper

04 – FDI Tournament 2021

- Held in 2022 in HCMC
- **Champion**
- **Best Innovation Idea** prize

Honor & Awards

14 Scholarships

10 Semester Scholarships
4 Full Scholarships (4 yrs)

Gold Table of Achievements

For top 5 highest GPA

Graduated as Valedictorian of the High-Quality program

University of Science

Excellent Thesis Topic

The Science and Technology Research Student Award 2021

Graduated with Excellent Degree

VNU-HCMC

02

Courses

There are some courses at University

Courses in University

- Data Mining
- Machine Learning
- Pattern Recognition
- Data Visualization
- Graph Mining

03

Thesis

Link Prediction on the Knowledge Graph
based on Rotation Embedding method

Link Prediction on the Knowledge Graph based on Rotation Embedding method

What is Knowledge Graph?

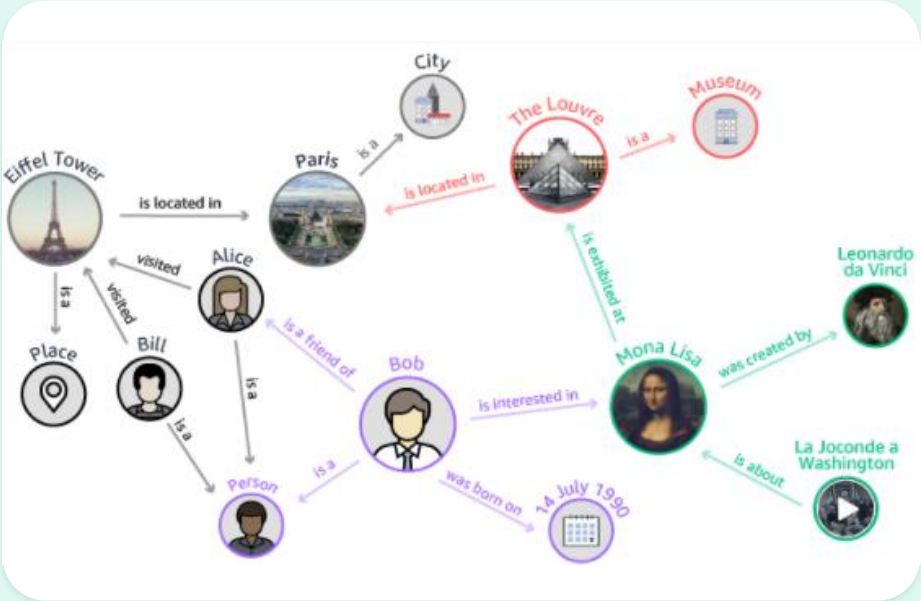
Definition

A structure representation of information that describes the real world

Notation

$\boldsymbol{KG} = (\boldsymbol{E}, \boldsymbol{R}, \boldsymbol{\Delta})$, where

$\boldsymbol{\Delta} = \{(\boldsymbol{h}, \boldsymbol{r}, \boldsymbol{t}) | \boldsymbol{h}, \boldsymbol{t} \in \boldsymbol{E}, \boldsymbol{r} \in \boldsymbol{R}\}$



What is Knowledge Graph?

Entities

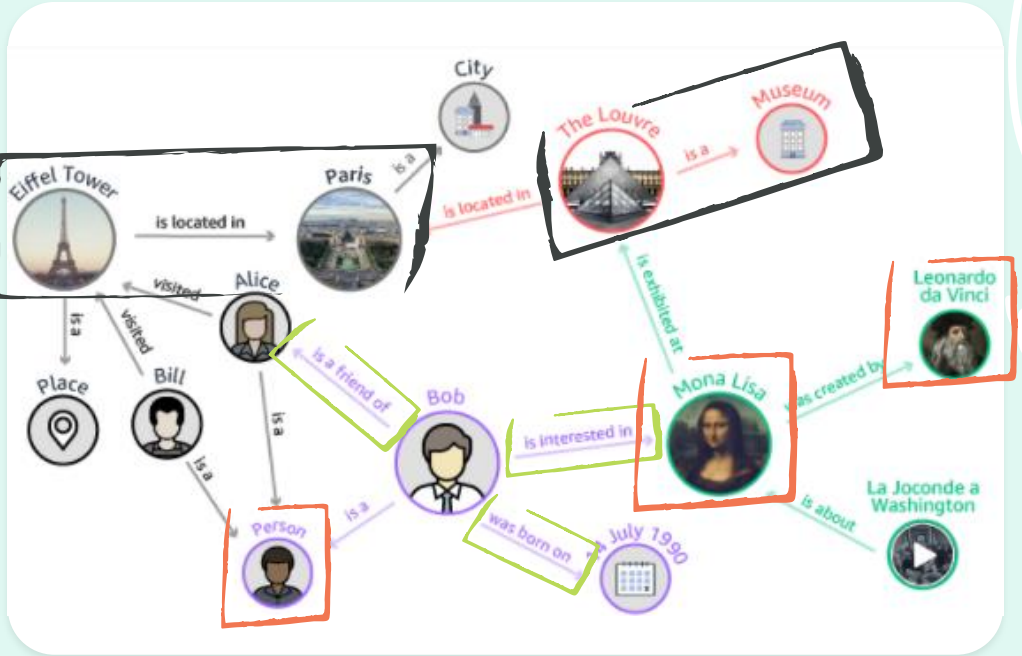
Or the **vertices** of the Knowledge Graph

Relations

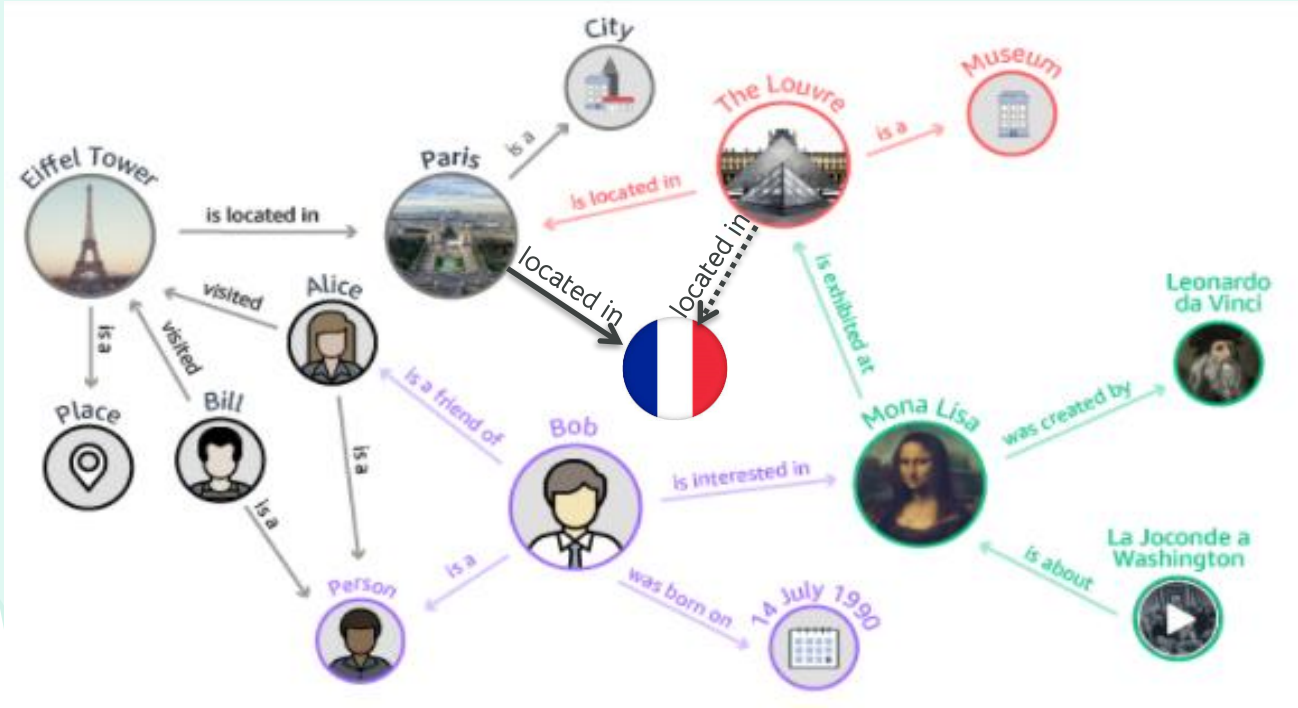
Or the **edges** of the Knowledge Graph

Triplets

Include **2 entities** and **a relation**



What is Link Prediction?



Approaches to Link Prediction

Matrix Factorization

- Bilinear
- Non-bilinear

Geometric

- Pure Translation
- Additional Embeddings
- Roto-translation

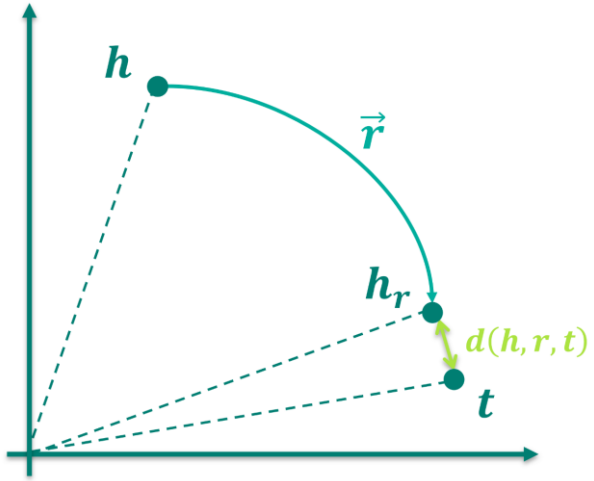
Deep Learning

- Convolution
- Capsule
- Recurrent

Geometric Approach

Embedding the graph into another space

- Entities ⟼ Points
- Relations ⟼ Transformations



Thanks!

Do you have any questions?

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