

SKKU Lab Recommendation Service : FindMyLab Midterm Presentation

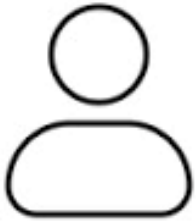
Team J (Last Lap) 김현진 송민석 장민석 조재희

Objectives & Milestones

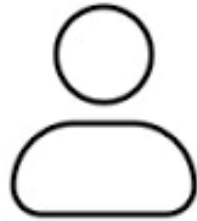
Midterm Presentation

Week	234	5	6	7	8	9	10	11	12	13	14	15
Ideation												
UX/UI Design												
Frontend												
Abstract Collect												
Database												
Backend												
AI Experiment												
AI Modeling												
AI Evaluation												

Role of each member

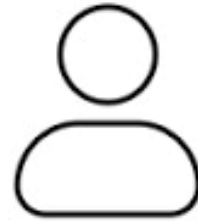


MinSeok Jang



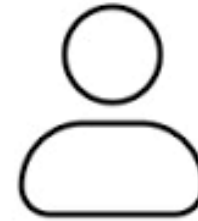
HyunJin Kim

UX/UI
Front-End



MinSeok Song

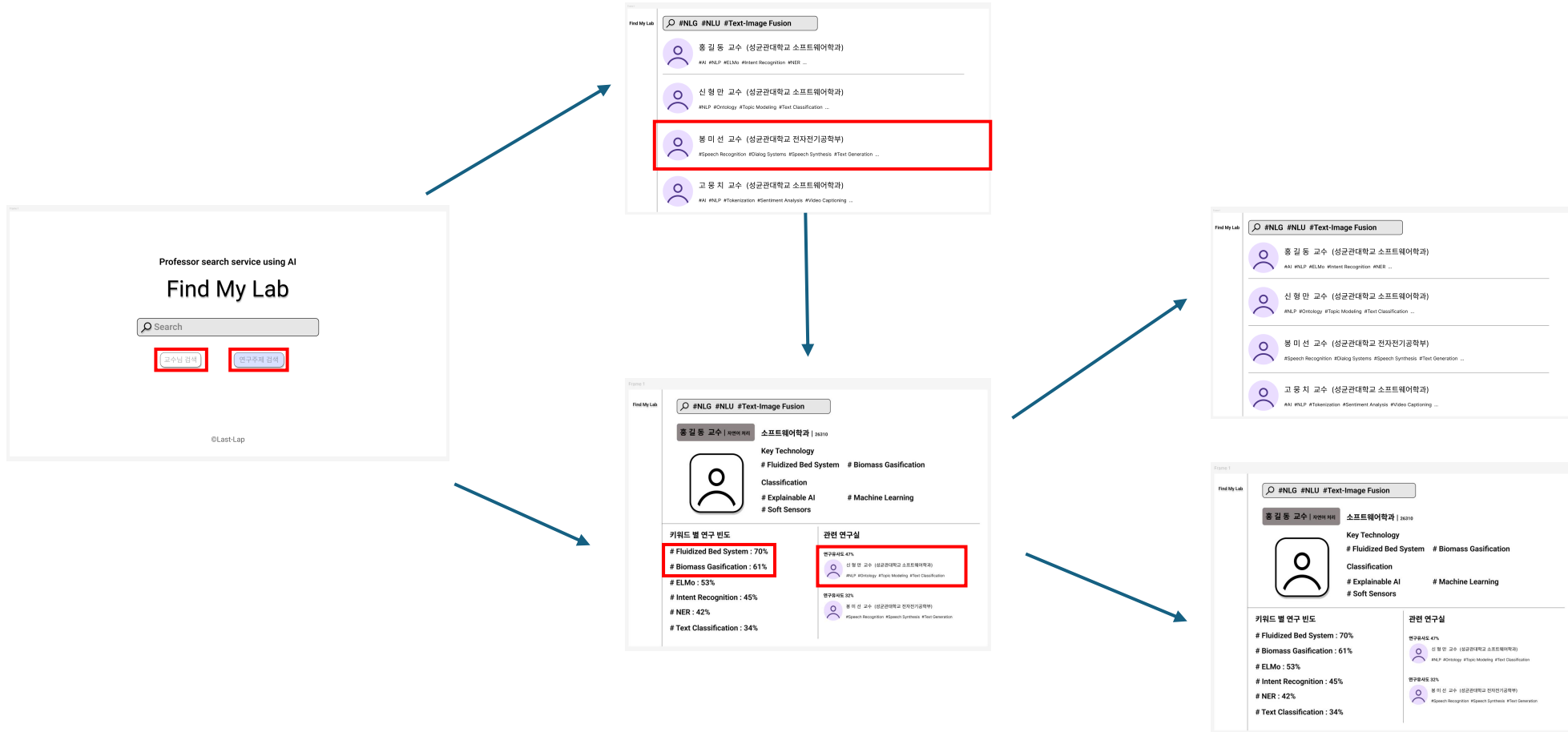
Abstract Extract
Back-End



JaeHee Jo

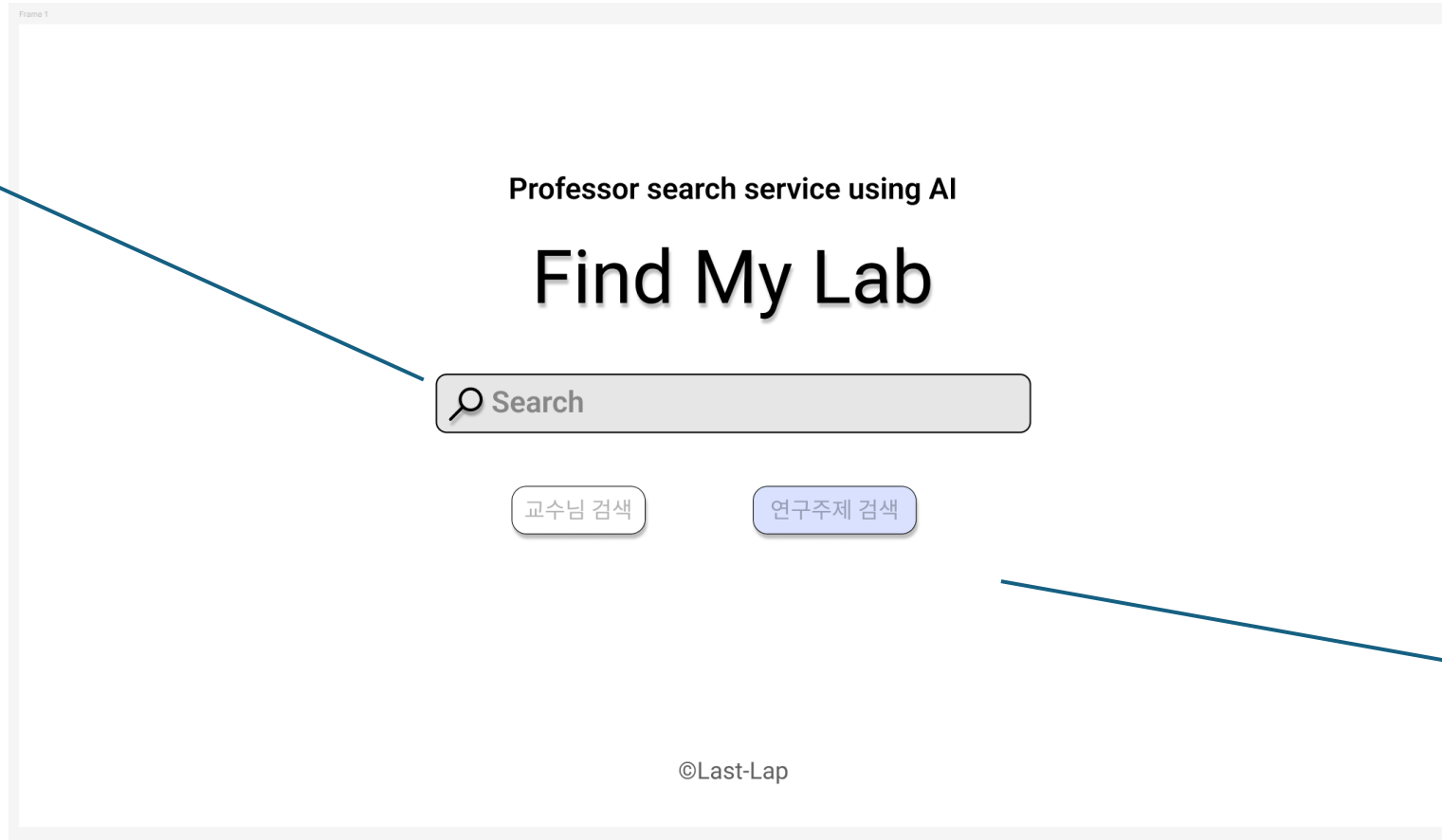
AI Modeling

UX/UI



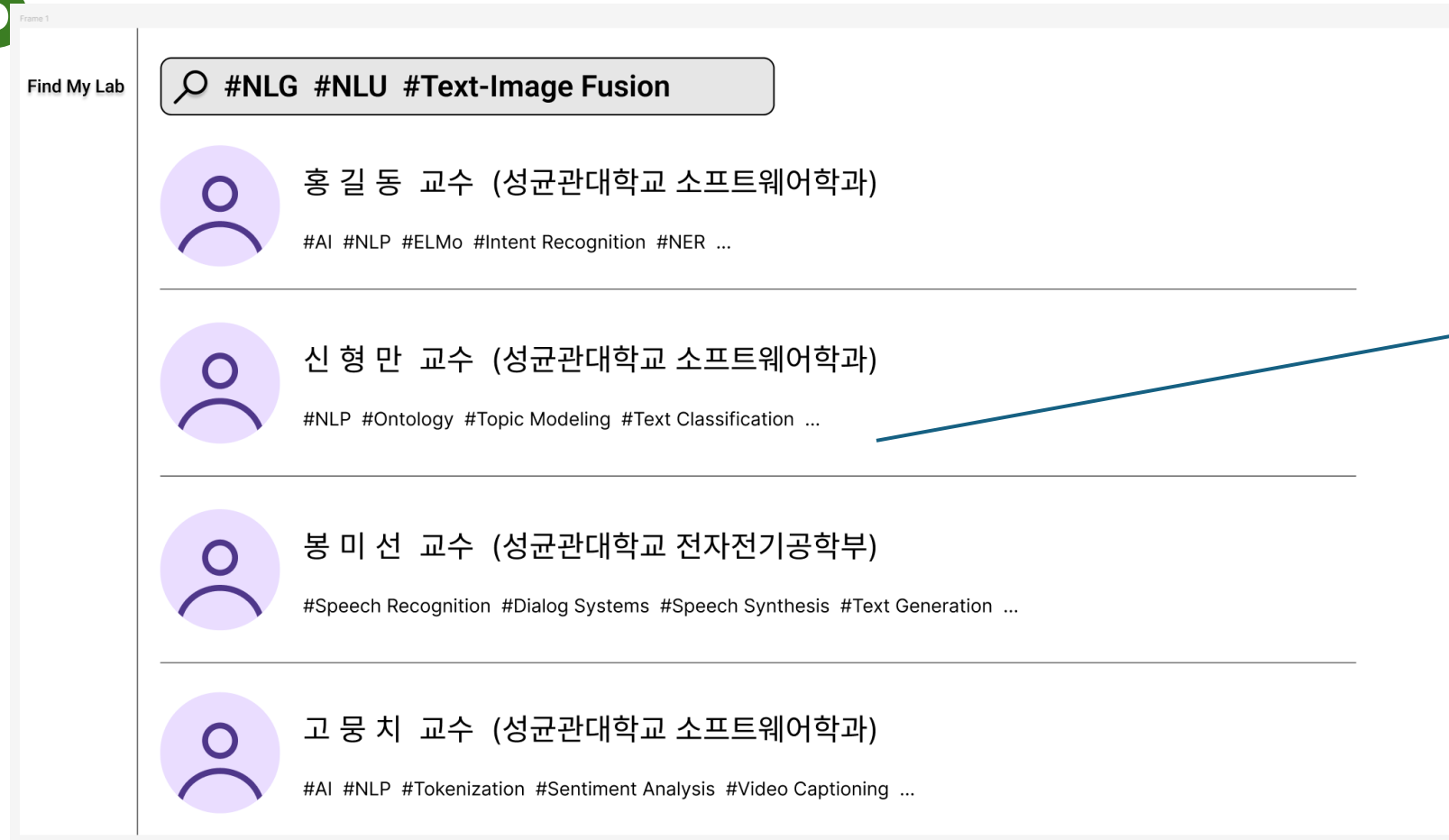
UX/UI - Search Page

Search Bar



Change
Search Mode

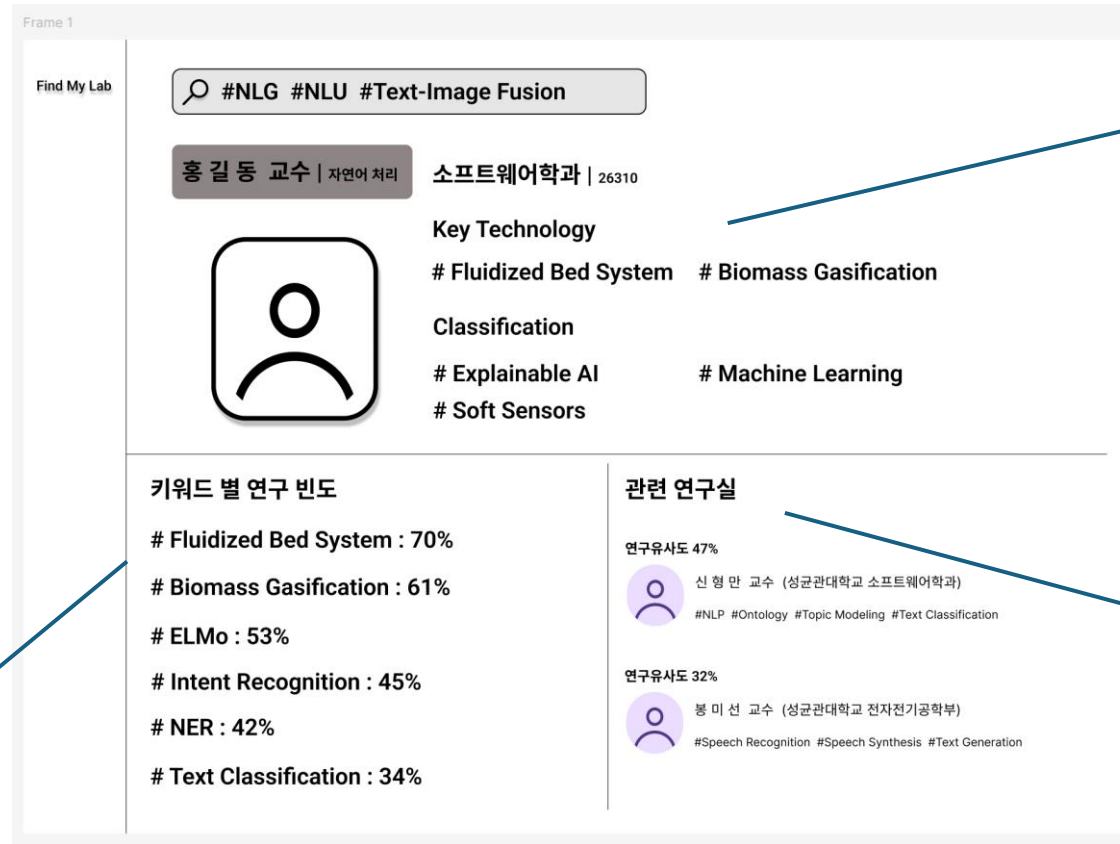
UX/UI - Search Result



List of Recommended Lab

- Professor
- Department
- Main Research Keywords

UX/UI - Lab Introduction Page



Laboratory Key Information

Study frequency by keyword

Similar laboratory recommendations

Backend Extractor

ORCID

Connecting Research
and Researchers

```
StatusCode      : 200
StatusDescription : OK
Content         : {"status":"ok","message-type":"work-list","message-version":"1.0.0","message":{"facets":{},"total-r
                  esults":19,"items":[{"indexed":{"date-parts":[[2024,7,3]],"date-time":"2024-07-03T23:32:09Z","times
                  ta...
RawContent      : HTTP/1.1 200 OK
                  transfer-encoding: chunked
                  access-control-expose-headers: Link
                  access-control-allow-headers: X-Requested-With, Accept, Accept-Encoding, Accept-Charset, Accept-Lan
                  guage, Accept-Range...
Forms           : {}
Headers         : {[transfer-encoding, chunked], [access-control-expose-headers, Link], [access-control-allow-headers
                  , X-Requested-With, Accept, Accept-Encoding, Accept-Charset, Accept-Language, Accept-Ranges, Cache-
                  Control], [access-control-allow-origin, *]}...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : mhtml:HTMLDocumentClass
RawContentLength : 197746
```

[Crossref API]

Abstract

학술지 논문

- (2022) Pivotal B plus tree for Byte-Addressable Persistent Memory. IEEE ACCESS. 10, -
- (2021) Failure-Atomic Byte-Addressable R-tree for Persistent Memory. IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS. 32, 3
- (2021) Failure-Atomic Byte-Addressable R-tree for Persistent Memory. IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS. 32, 3
- (2020) B-3-Tree: Byte-Addressable Binary B-Tree for Persistent Memory. ACM TRANSACTIONS ON STORAGE. 16, 3

Google 학술검색

(2022) Pivotal B plus tree for Byte-Addressable Persistent Memory. IEEE AC



학술자료

검색결과 약 126개 (0.10초)

모든 날짜

2024 년부터

2023 년부터

2020 년부터

기간 설정...

Pivotal B+ tree for Byte-Addressable Persistent Memory

J Yoo, H Cha, W Kim, W H Kim, S S Park, B Nam - IEEE Access, 2022 - ieeexplore.ieee.org

... for **byte-addressable persistent memory**. In this work, we design and implement PB+tree (Pivotal B+tree) ... In this work, we present **Pivotal B+tree** (PB+Tree) that simplifies **memory access** ...

☆ 저장 57 인용 1회 인용 관련 학술자료 전체 4개의 버전

Backend - Abstract Extractor

SPRINGER NATURE
Data Solutions

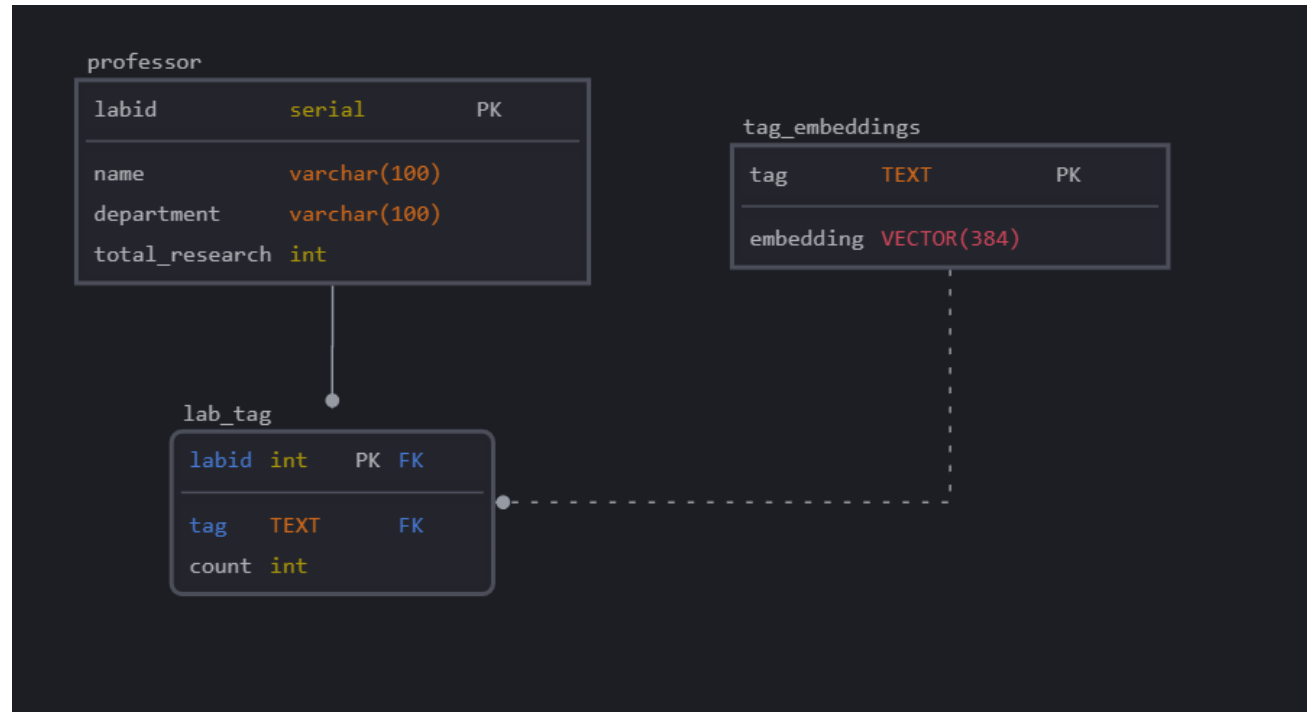
Developer Documentation

Our API's

BeautifulSoup



Backend - Database



Backend - Restful server

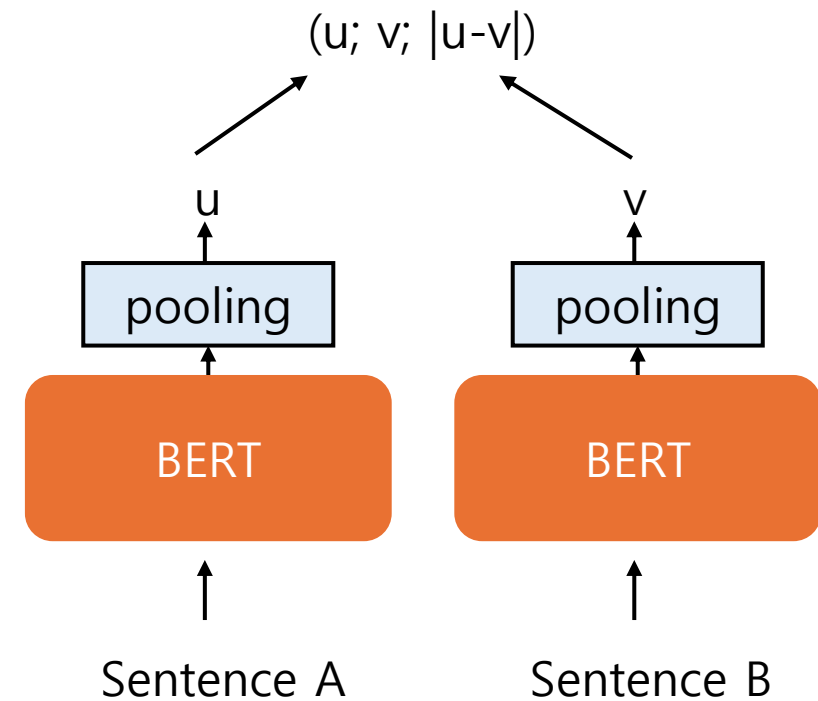
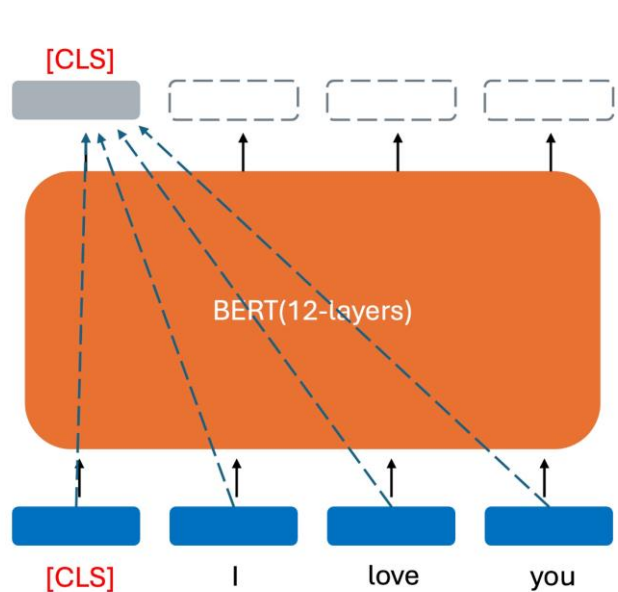
EC2 > 인스턴스 > i-02ebae7c887ae1c06	
i-02ebae7c887ae1c06 (SKKULab)에 대한 인스턴스 요약 정보 less than a minute 전에 업데이트됨	
인스턴스 ID i-02ebae7c887ae1c06	퍼블릭 IPv4 주소 3.35.137.116 개방 주소법
IPv6 주소 -	인스턴스 상태 대기 중
호스트 이름 유형 IP 이름: ip-172-31-9-48.ap-northeast-2.compute.internal	프라이빗 IP DNS 이름(IPv4만 해당) ip-172-31-9-48.ap-northeast-2.compute.internal
프라이빗 리소스 DNS 이름 응답 IPv4(A)	인스턴스 유형 t2.micro
자동 할당된 IP 주소 3.35.137.116 [퍼블릭 IP]	VPC ID vpc-031340ccb0238acc6

AI - SBERT

Wiki/Library
corpus



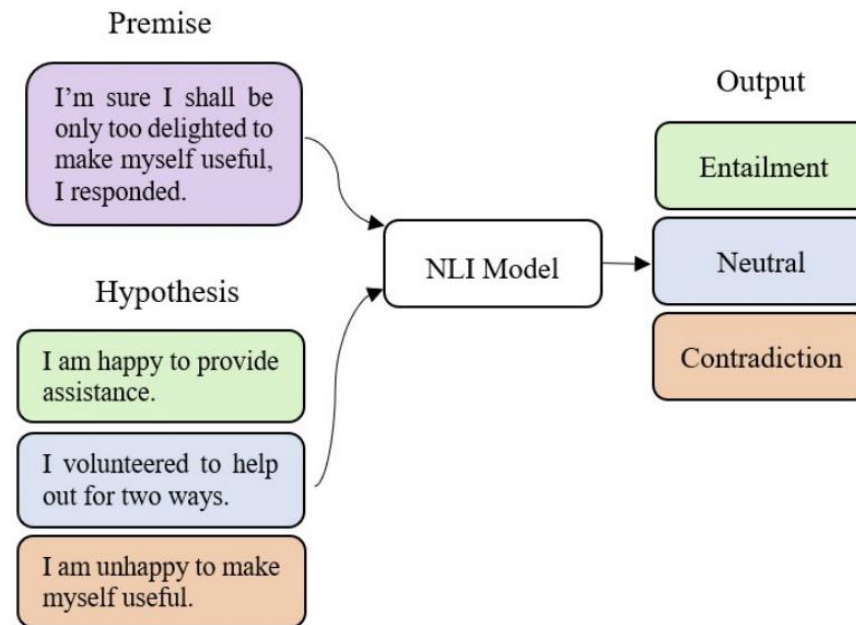
Hugging Face : SBERT-bas-nli-v2



AI - NLI Task

NLI (Natural Language Inference)

Goal: understanding the relationships between sentences



AI - Goal



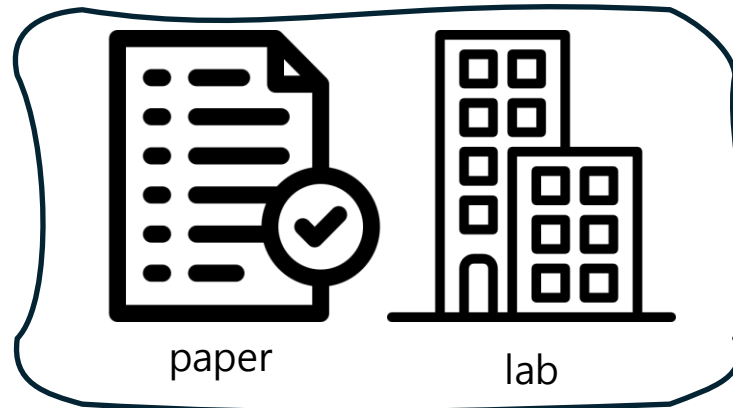
abstracts



similarity



results



search words

AI - Experiment

Identifying compiler toolchain provenance serves as a basis for both benign and malicious binary analyses. A wealth of prior studies mostly focuses on the inference of a popular compiler toolchain for C and C++ languages from stripped binaries that are built with GCC or clang. Lately, the popularity of an emerging compiler is on the rise such as Rust, Go, and Nim programming languages that complement the downsides of C and C++ (e.g., security), which little has been explored on

⋮

target abstract

Compiler toolchain provenance
BERT-based system
Toolchain classification
Binary code similarity detection
Machine learning

positive

Dialogue-specific pre-training task
Encoder-decoder transformer
AI dialogue systems
Language understanding and generation

semi negative

(same domain but different)

AI - Experiment

positive

```
positive similarity (Compiler toolchain provenance): 0.7811970114707947
positive similarity (BERT-based system): 0.41414642333984375
positive similarity (Toolchain classification): 0.5638635754585266
positive similarity (Binary code similarity detection): 0.57719486951828
positive similarity (Machine learning): 0.5563946962356567
positive similarity (Fine-tuning process): 0.43460023403167725
positive similarity (Binary analysis): 0.5318818092346191
positive similarity (Signature-based tool): 0.48783546686172485
positive similarity (Emerging compilation toolchains (Rust Go Nim)): 0.6662441492080688
positive similarity (C and C++ compilers (GCC clang)): 0.7179384231567383
```

0.5



(almost)

negative

```
negative similarity (Dialogue-specific pre-training task): 0.3611958622932434
negative similarity (Encoder-decoder transformer): 0.43461769819259644
negative similarity (AI dialogue systems): 0.4394277334213257
negative similarity (Language understanding and generation): 0.4609677195549011
negative similarity (Task-oriented dialogue systems): 0.41865217685699463
negative similarity (SIMMC2.0 challenge): 0.33725640177726746
negative similarity (Auxiliary task for pre-training): 0.32983070611953735
negative similarity (Model performance improvement): 0.43528273701667786
```

0.5



AI - Experimer

Identifying compiler toolchain provenance serves as a basis for both benign and malicious binary analyses. A wealth of prior studies mostly focuses on the inference of a popular compiler toolchain for C and C++ languages from stripped binaries that are built with GCC or clang. Lately, the popularity of an emerging compiler is on the rise such as Rust, Go, and Nim programming languages that complement the downsides of C and C++ (e.g., security), which little has been explored on

positive

Compiler toolchain provenance
BERT-based system
Toolchain classification
Binary code similarity detection
Machine learning

target words

The next generation of artificial intelligence (AI) is required to be capable of proper communication to enable eloquent interaction with human beings. Thus, AI models require powerful language understanding and generation capabilities. Therefore, designing an adequate dialogue-specific task is an important topic in dialogue research. In this article, we improve our model that won in two out of four subtasks in SIMMC2.0 challenge using a dialogue-specific pre-training task, which learns

semi - negative

Over the past few years, various indexes have been redesigned for byte-addressable persistent memory. In this work, we design and implement PB+tree (Pivotal B+tree) that resolves the limitations of state-of-the-art fully persistent B+trees. First, PB+tree reduces the number of expensive shift operations by up to half by managing two sub-arrays separated by a pivot key. Second, PB+tree reads cachelines in ascending order, which makes PB+tree benefit from hardware

negative

AI - Experiment

clear
domain specific

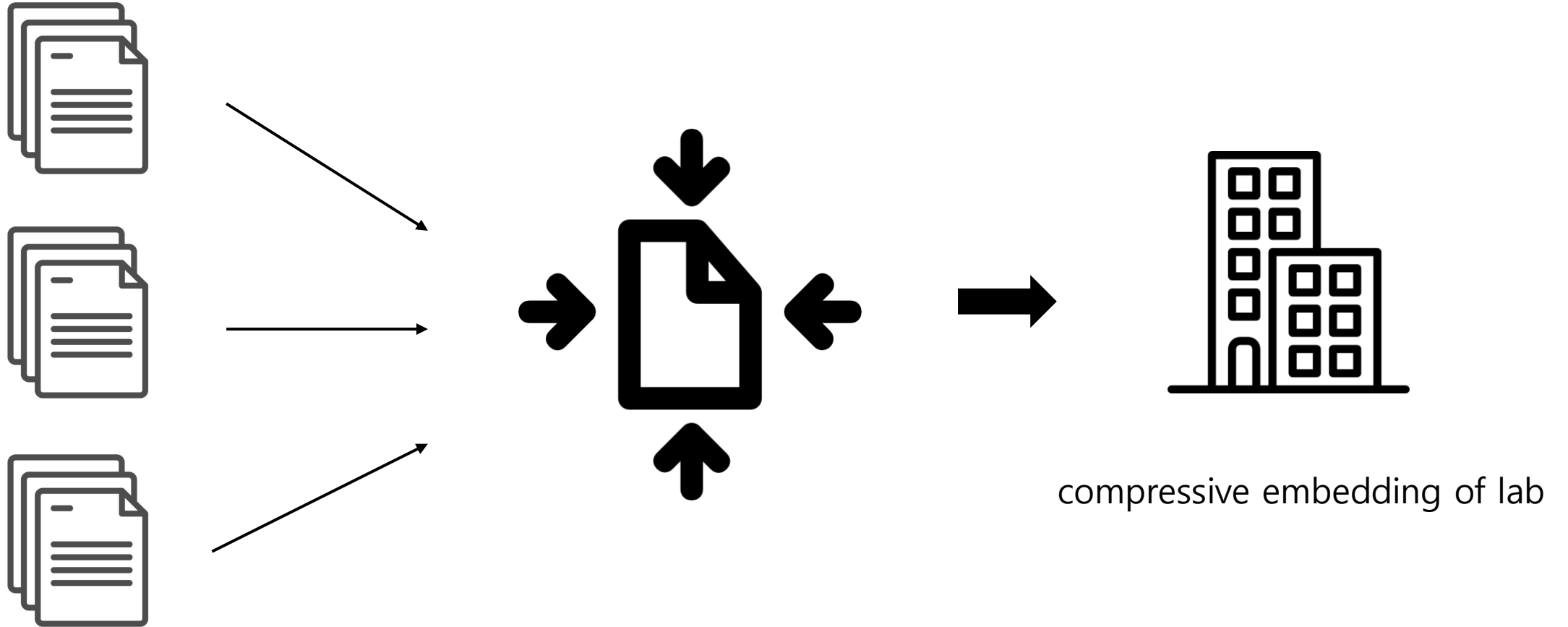
```
key word (Compiler toolchain provenance)
Positive similarity: 0.7811970114707947
semi-Negative similarity: 0.4616994857788086
Negative similarity: 0.4929749369621277
```

```
key word (Binary code similarity detection)
Positive similarity: 0.57719486951828
semi-Negative similarity: 0.4377126693725586
Negative similarity: 0.4894843101501465
```

ambiguous
generic words

```
key word (Machine learning)
Positive similarity: 0.5563946962356567
semi-Negative similarity: 0.5957521200180054
Negative similarity: 0.4678981602191925
```

AI - To do



Q & A
