

# Image Classification & Detection

Fashion Items : Shoes

Itwill 12<sup>th</sup> LKYJ Team

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**01** Introduction

**02** Project 1 : Classification

**03** Project 2 : Detection

# 01

## Introduction

1. About lecture
2. Team member

# 01

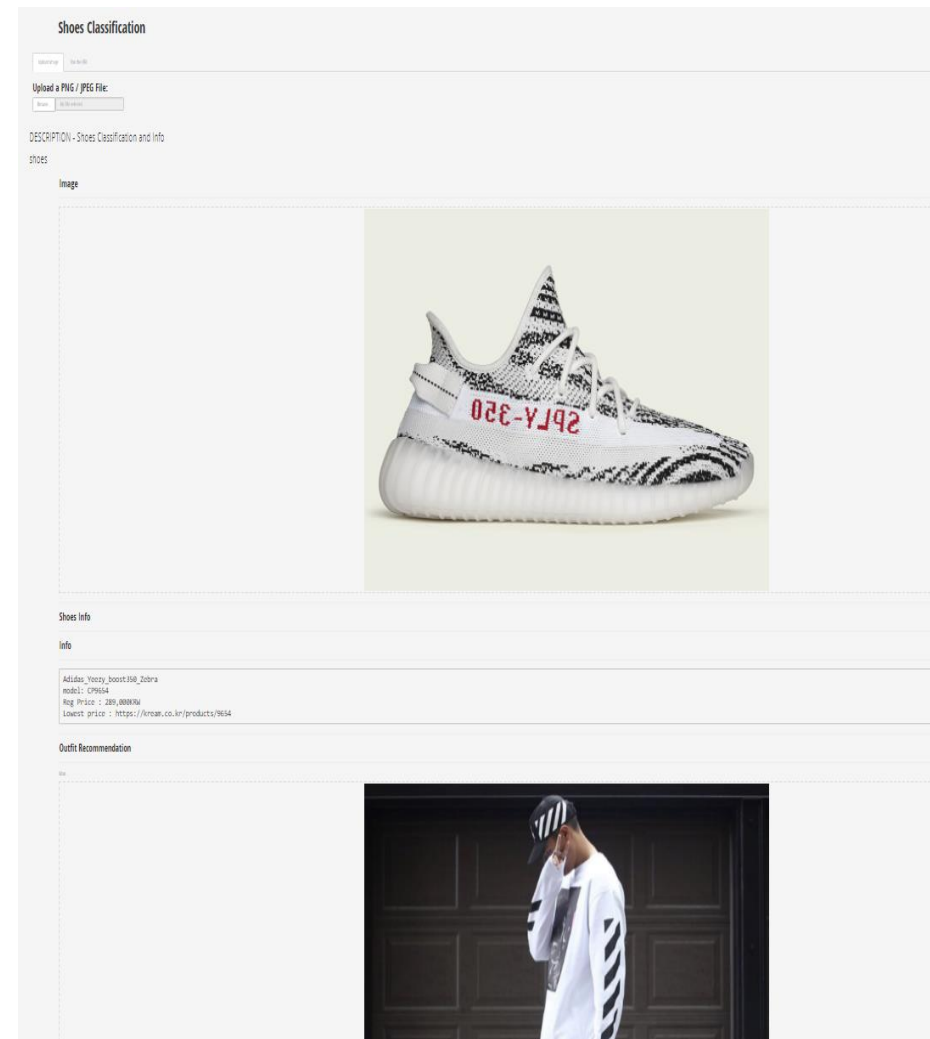
## 01. About lecture

## 02. Team Member

# Introduction

## Classification & Detection

▶ Classification : VGGnet



▶ Detection : Yolo v4



# 01

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01. About lecture

## 02. Team Member

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# Introduction

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## Team : LKYJ

- ▶ 이신성 : Img Classification, modeling
- ▶ 김미승 : Img Classification, R shiny
- ▶ 정희원 : Object Detection, Dataset
- ▶ 김정민 : Object Detection, modeling
- ▶ 양건준 : Object Detection, Webcam(realtime)

# 02

## Project 1 : Classificaion

1. Project Goals
2. Development Process
3. Datasets
4. Development Environment

# 02

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## 01. Project Goals

02. Development Process

03. Datasets

04. Development  
Environment

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## Project 1 : Classification

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### 학습목표

▶ 개발환경 구축

▶ 커스텀 데이터셋 생성

▶ 데이터셋을 이용하여 모델 생성

▶ 추출된 모델과 R shiny 를 활용하여 기능 구현

▶ 커스텀 데이터셋, 클라우드 환경, 전이학습을 활용해서  
자신만의 분류기 만들기.

# 02

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01. Project Goals

**02. Development  
Process**

03. Datasets

04. Development  
Environment

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## Project 1 : Classification

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### 개발 과정

- ▶ Python, R studio, Colab 환경 세팅
- ▶ 웹 스크롤링, 촬영 등을 통해 데이터셋 생성
- ▶ 로컬에서 이미지 전처리 수행
- ▶ Colab 에서 모델 학습 및 튜닝, 추출
- ▶ R shiny 을 활용하여 유저가 사용가능한 기능 구현



# 02

01. Project Goals

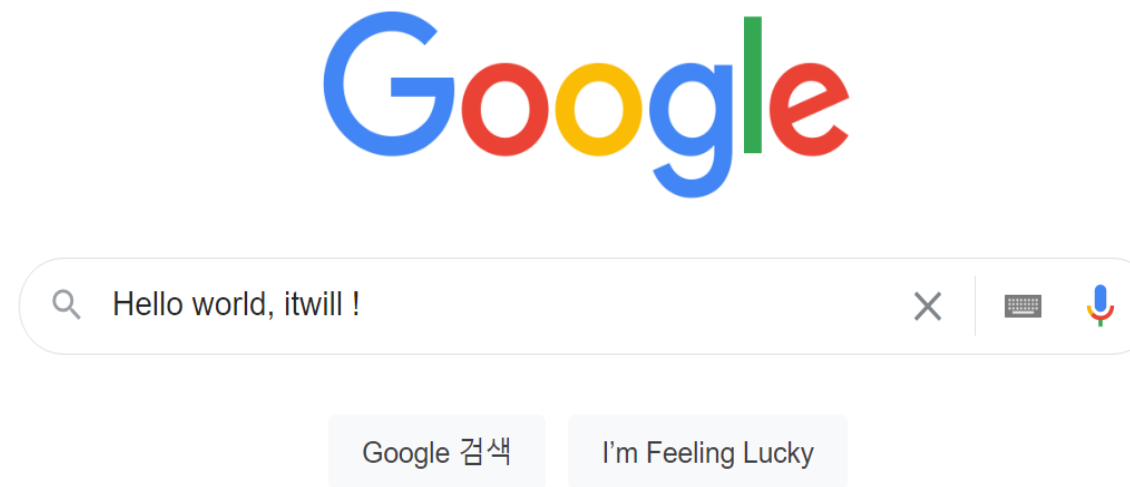
02. Development Process

**03. Datasets**

04. Development Environment

## Project 1 : Classification

### Raw datasets : Web Scrolling



# 02

01. Project Goals

02. Development Process

03. Datasets

**04. Development  
Environment**

## Project 1 : Classification

### 개발 환경

<b>OS</b>	Windows10
<b>Python</b>	3.7.9
<b>R</b>	4.0.5
<b>Tensorflow</b>	2.4.1
<b>GPU</b>	K80, T4, p100 (Colab)
<b>Transfer model</b>	VGGnet (VGG16)

# 03

## Project 2 : Detection

1. Project Goals
2. Development Process
3. Datasets
4. Development Environment

# 03

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## 01. Project Goals

02. Development Process

03. Datasets

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## Project 2 : Detection

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### 학습목표

- ▶ 개발환경 구축
- ▶ 커스텀 데이터셋 생성
- ▶ 데이터셋을 이용하여 모델 생성
- ▶ 추출된 모델과 Real-time web cam 을 활용하여 기능 구현
- ▶ 커스텀 데이터셋, 클라우드 환경, Yolo v4 를 활용해서 실시간 객체탐지를 웹캠으로 구현

# 03

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01. Project Goals

**02. Development  
Process**

03. Datasets

04. Development  
Environment

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## Project 2 : Detection

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### 개발 과정

- ▶ Python, Colab 환경 세팅
- ▶ 웹 스크롤링, 촬영 등을 통해 데이터셋 생성
- ▶ 로컬에서 이미지 라벨링 수행
- ▶ Colab 에서 모델 학습 및 튜닝, 추출
- ▶ Web cam 을 활용하여 유저가 사용가능한 기능 구현

# 03

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01. Project Goals

02. Development Process

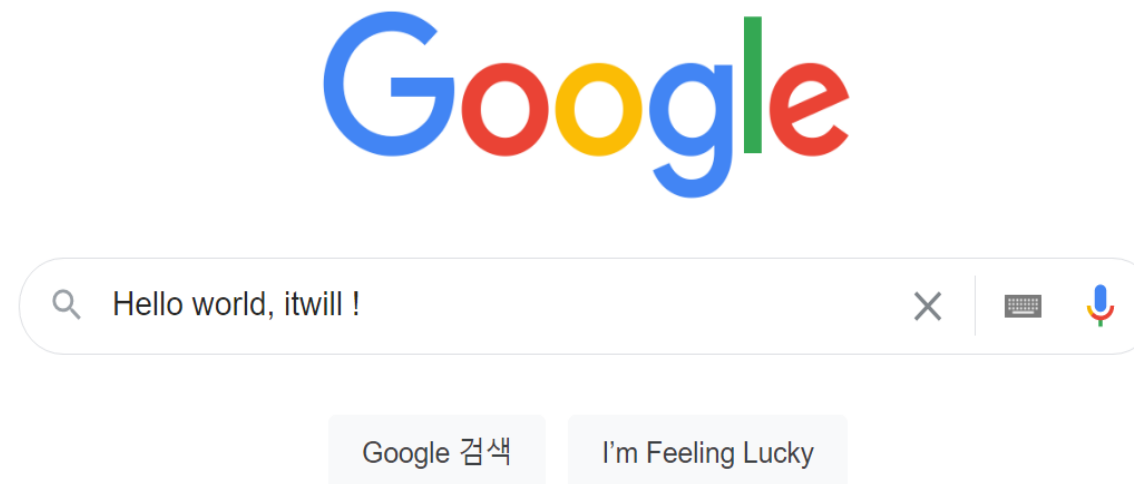
**03. Datasets**

04. Development Environment

## Project 2 : Detection

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**Raw datasets : Web Scrolling & camera**



# 03

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01. Project Goals

02. Development Process

03. Datasets

**04. Development  
Environment**

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## Project 2 : Detection

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### 개발 환경

<b>OS</b>	Windows10
<b>Python</b>	3.7.9
<b>Tensorflow</b>	2.4.1
<b>GPU</b>	K80, T4, p100 (Colab)
<b>Paper</b>	Yolo v4 (darknet)

# Thank you

Itwill 12<sup>th</sup> LKYJ Team