

# 디지털미디어랩 머신러닝 여름캠프 4주차

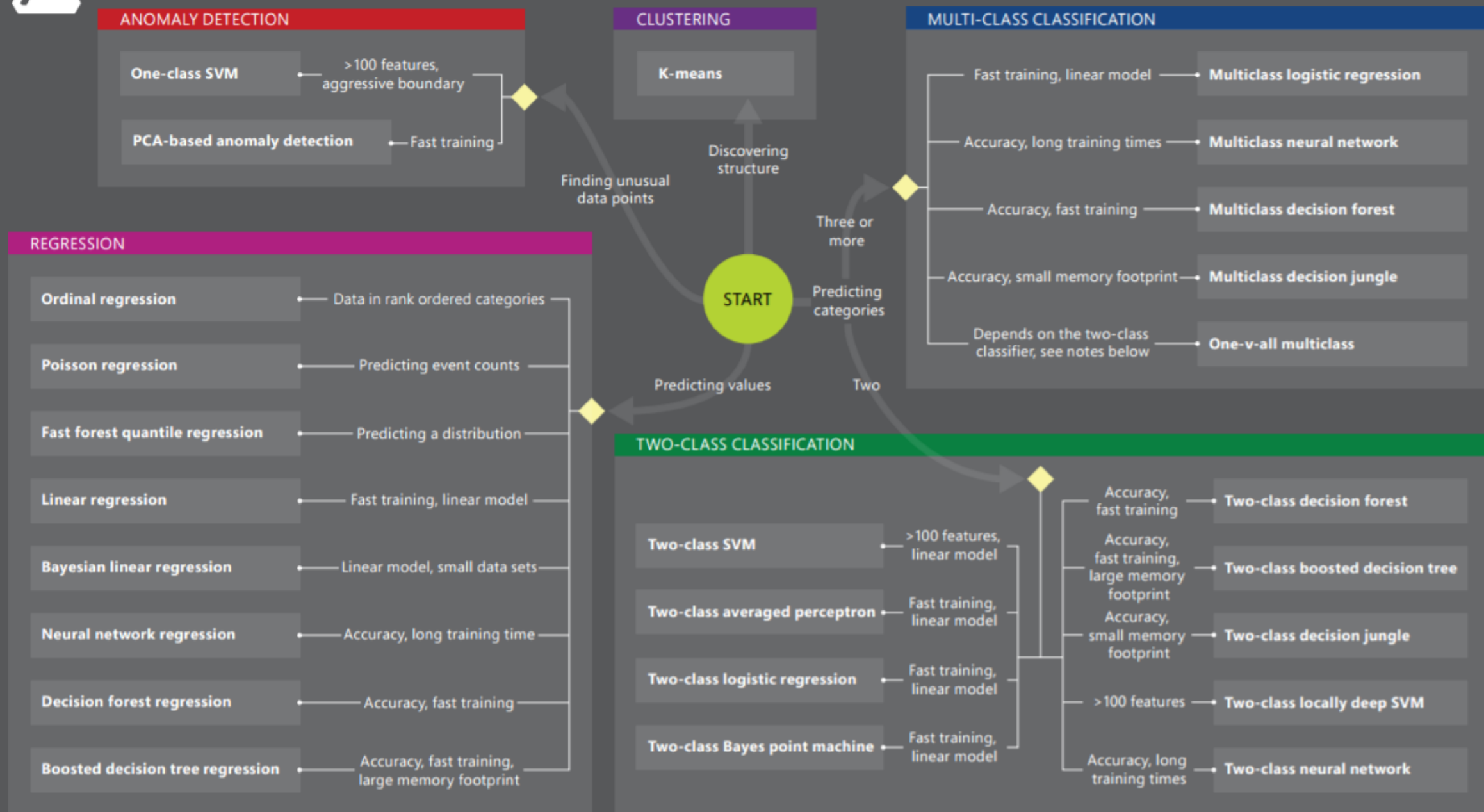
(5) 머신러닝 cheatsheet 및 기타 정보



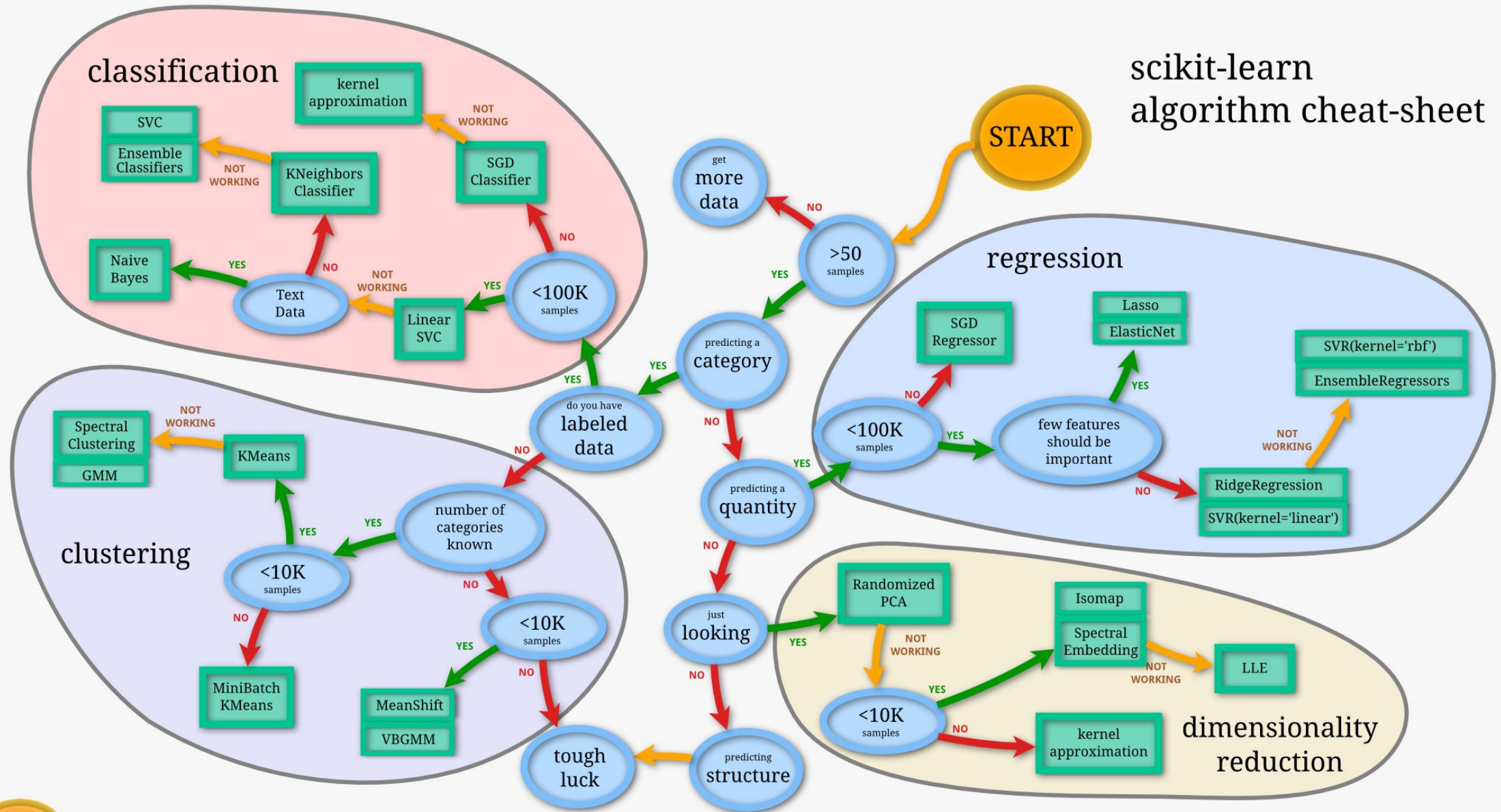


# Microsoft Azure Machine Learning: Algorithm Cheat Sheet

This cheat sheet helps you choose the best Azure Machine Learning Studio algorithm for your predictive analytics solution. Your decision is driven by both the nature of your data and the question you're trying to answer.



# scikit-learn algorithm cheat-sheet





# Welcome to Kaggle Competitions

Challenge yourself with real-world machine learning problems



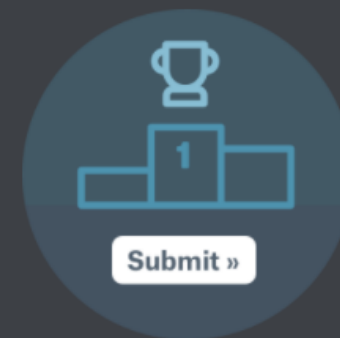
## New to Data Science?

Get started with a tutorial on our most popular competition for beginners, [Titanic: Machine Learning from Disaster](#).



## Build a Model

Get the data & use whatever tools or methods you prefer to make predictions.



Submit »

## Make a Submission

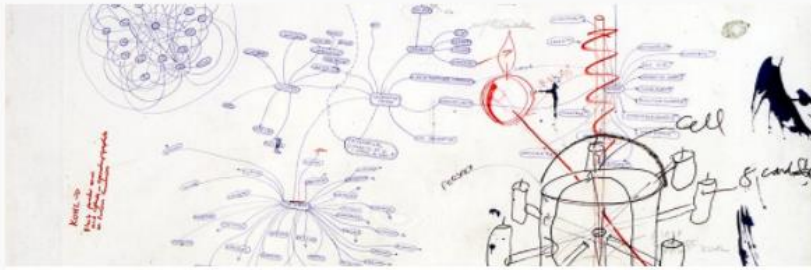
Upload your prediction file for real-time scoring & a spot on the leaderboard.



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## The Art Machine

ART DRAWING MIXED INITIATIVE

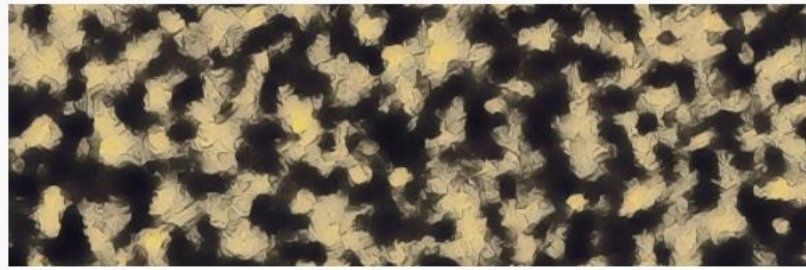
micitest 2 hours ago

★ 1

M



img062 from Urban100 [10] VDSR [11] (20.75 dB / 0.7504) SRResNet [14] (21.70 dB / 0.8054) EDSR+ (Ours) (22.70 dB / 0.8537) MDSR+ (Ours) (22.66 dB / 0.8508)



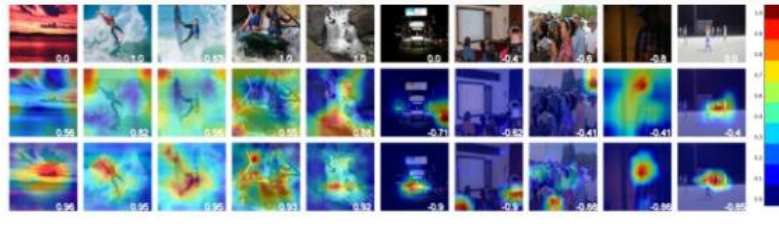
## Noise in Design

DESIGN MACHINE LEARNING STYLETRANSFER

psoulos 7 days ago

★ 1

P



12 megapixel 16-bit linear input (tone-mapped for visualization) tone-mapped with HDR+ 400 - 600 ms processed with our algorithm 61 ms, PSNR - 28.4 dB

## Deep Bilateral Learning for Real-Time Image Enhancement

MACHINE LEARNING PHOTOGRAPHY RESEARCH

alexjc 11 days ago

★ 1



## Welcome

Theano is a Python library that allows you to define, optimize, and evaluate mathematical expressions involving multi-dimensional arrays efficiently. Theano features:

- **tight integration with NumPy** – Use `numpy.ndarray` in Theano-compiled functions.
- **transparent use of a GPU** – Perform data-intensive computations much faster than on a CPU.
- **efficient symbolic differentiation** – Theano does your derivatives for functions with one or many inputs.
- **speed and stability optimizations** – Get the right answer for `log(1+x)` even when `x` is really tiny.
- **dynamic C code generation** – Evaluate expressions faster.
- **extensive unit-testing and self-verification** – Detect and diagnose many types of errors.

Theano has been powering large-scale computationally intensive scientific investigations since 2007. But it is also approachable enough to be used in the classroom (University of Montreal's [deep](#)

An open-source software library  
for Machine Intelligence

GET STARTED



TensorFlow 1.2 has arrived!



Introducing TensorFlow  
Research Cloud



The 2017 TensorFlow  
Dev Summit





torch

A SCIENTIFIC COMPUTING FRAMEWORK FOR LUAJIT

[GET STARTED](#)

## What is Torch?

Torch is a scientific computing framework with wide support for machine learning algorithms that puts GPUs first. It is easy to use and efficient, thanks to an easy and fast scripting language, LuaJIT, and an underlying C/CUDA implementation.

A summary of core features:



# Caffe

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Deep learning framework  
by [BAIR](#)

Created by

[Yangqing Jia](#)

Lead Developer

[Evan Shelhamer](#)

 [View On GitHub](#)

# Caffe

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Caffe is a deep learning framework made with expression, speed, and modularity in mind. It is developed by Berkeley AI Research ([BAIR](#)) and by community contributors. [Yangqing Jia](#) created the project during his PhD at UC Berkeley. Caffe is released under the [BSD 2-Clause license](#).

Check out our web image classification [demo!](#)

## Why Caffe?

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**Expressive architecture** encourages application and innovation. Models and optimization are defined by configuration without hard-coding. Switch between CPU and GPU by setting a single flag to train on a GPU machine then deploy to commodity clusters or mobile devices.

**Extensible code** fosters active development. In Caffe's first year, it has been forked by over 1,000 developers and had many significant changes contributed back. Thanks to these contributors the framework tracks the state-of-the-art in both code and models.

**Speed** makes Caffe perfect for research experiments and industry deployment. Caffe can process **over 60M images per day** with a single NVIDIA K40 GPU\*. That's 1 ms/image for inference and 4 ms/image for learning and more recent library versions and hardware are faster still. We believe



## Home

Keras: The Python Deep Learning library

You have just found Keras.

Guiding principles

Getting started: 30 seconds to Keras

Installation

Switching from TensorFlow to CNTK or Theano

Support

Why this name, Keras?

## Getting started

Guide to the Sequential model

Guide to the Functional API

FAQ

## Keras: The Python Deep Learning library

### You have just found Keras.


Keras is a high-level neural networks API, written in Python and capable of running on top of [TensorFlow](#), [CNTK](#), or [Theano](#). It was developed with a focus on enabling fast experimentation. *Being able to go from idea to result with the least possible delay is key to doing good research.*

Use Keras if you need a deep learning library that:

- Allows for easy and fast prototyping (through user friendliness, modularity, and extensibility).
- Supports both convolutional networks and recurrent networks, as well as combinations of the two.
- Runs seamlessly on CPU and GPU.

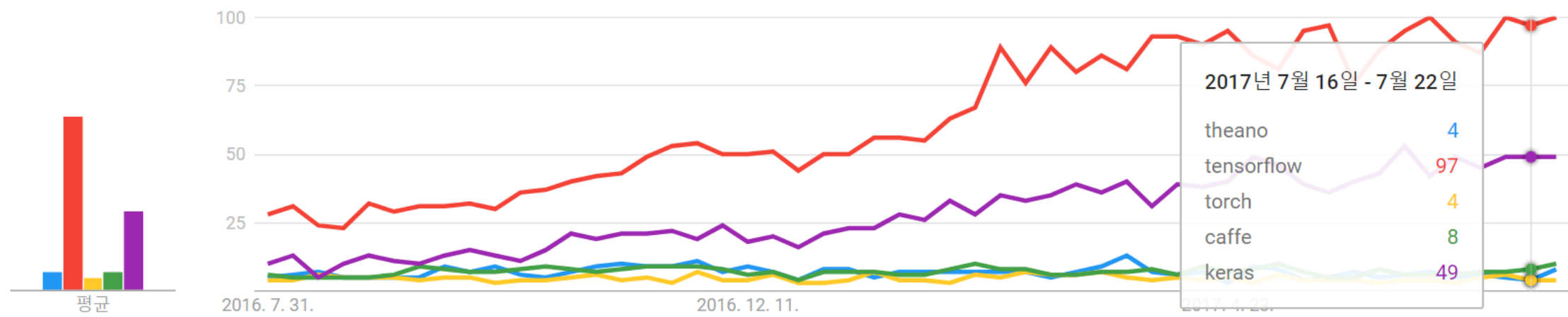
Read the documentation at [Keras.io](#).

Keras is compatible with: **Python 2.7-3.5**.

	Languages	Tutorials and training materials	CNN modeling capability	RNN modeling capability	Architecture: easy-to-use and modular front end	Speed	Multiple GPU support	Keras compatible
Theano	Python, C++	++	++	++	+	++	+	+
Tensor-Flow	Python	+++	+++	++	+++	++	++	+
Torch	Lua, Python (new)	+	+++	++	++	+++	++	
Caffe	C++	+	++		+	+	+	
MXNet	R, Python, Julia, Scala	++	++	+	++	++	+++	
Neon	Python	+	++	+	+	++	+	
CNTK	C++	+	+	+++	+	++	+	

<https://svds.com/getting-started-deep-learning/>

# 시간 흐름에 따른 관심도 변화 ?





[HOME](#)[ABOUT](#)[GETTING STARTED](#)[LESSONS ▾](#)[CONTACT](#)[BLOG](#)

Welcome to fast.ai's 7 week course, **Practical Deep Learning For Coders, Part 1**, taught by Jeremy Howard (*Kaggle's* #1 competitor 2 years running, and founder of *Enlitic*). Learn how to build state of the art models without needing graduate-level math—but also without dumbing anything down. Oh and one other thing... it's totally free!

"I highly recommend this course. Jeremy is an amazing teacher"



- **Erik Brynjolfsson**: Professor at MIT Sloan; Author of *The Second Machine Age*

▶ Reducing overfitting [...]

▼ Resnet