Machine Learning Engineer Course Day1

– Programming（Python） –

DIVE INTO CODE

Thursday 11 March 2021

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Check-in

3 minutes Please post the following point to Zoom chat.

Q. What do you think is most important for graduating on time?

(Other than DIVE INTO CODE lecture)

Agenda

1. Please Note
2. Today's word
3. Overview of curriculum
4. How to learn
5. Review of pre-lecture assignemnt
6. Challenge to lecture assignment

🚨 Please Note

How to proceed with this course and precautions

You will be the leader in the IT industry in Vietnam.

❶ Advance at top speed

We do not bottom up

❷ Promote autonomous self-propelled

We do not accept unexplained questions

❸ Focus on problem-solving ability

We do not give lectures on building up the foundation

Today's word

"Code is read more often than it is written"

Guido Van Rossum

Overview of curriculum

The curriculum is designed to work backwards from the goal. Think a few steps ahead as you run.

Goal

Become a Machine Learning Engineer

Term3

Define the problem and be able to solve it in time

Term2

Be able to recognize current problems and apply existing solutions

Term1

Learn classical theories and acquire best practice

Introduction Term

Learn how to think with tools

Overview of curriculum

(Introduction Term)

- Solve the DIVER pre-lecture assignment before the lecture day.
- Work on the lecture assignments after you have attended the lecture.
- Push the assignments to GitHub and submit them on DIVER.
- If you receive a revision request from your mentor, please respond to it.
- Work on the assignment until you pass.
- Pair programming and study sessions with classmates are encouraged.

Overview of curriculum

(Term1 to Term2)

- You will work on the Sprint assignment in DIVER.
- Please submit assignments in the same way as in the prior study period.
- You are expected to study on your own, but please feel free to ask questions using the question function of DIVER.

Overview of curriculum

(Term3)

- The internship will be an engineering project on a subject specified by DIVE INTO CODE.

How to learn

Let's learn "thinking method using Python as a tool."

◎ Good thinking	× NOT good thinking
「How can I do that?」	「I haven't learned it yet...」
「Is it really right?」	「It has written on ○○...」
「Let's try it first!」	「I'll do it when I know more...」

How to learn

We encourage and facilitate learning together with the fundamentals in mind. This time, we will especially bring back the experience of learning together.

Objectives

1. Learn how to think about the program with your peers
2. Use the basic elements of the program
3. Feel like a machine

How to learn

Objectives
1 Learn how to think about the program with your peers
2 Use the basic elements of the program
3 Feel like a machine

How to learn

It is important to learn how to think about programs through code reading, pair programming, and code review.

Objectives

1. Learn how to think about the program with your peers
   a. Code reading
   b. Pair programming
   c. Code Review

How to learn

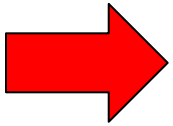
a. Code reading

Always check the style guide in PEP8 (Pep Eight)

Then･･･

- **Read the code written by your predecessors and peers**
- **Compare it with your own code that you have worked on**
- **Explain the differences and findings**

※ Python code style guide is the etiquette of writing Python.



Let's do it as a matter of course,
as if we were taking a breath

How to learn

b. Pair programming



"We will work in pairs, sharing a single screen and keyboard for implementation."

One person writes the code as a driver, and the other person looks at the code as an observer and gives advice, thus promoting knowledge sharing.

- Learn from an active engineer, "What are the important points while practicing pair programming?

Let's do it naturally, as if we were saying hello

How to learn

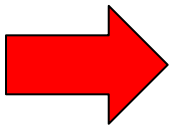
c. Code Review

Try to build a trusting relationship with your peers. Argue from the perspective of "what is more appropriate" rather than "what is right.

- Is the code working properly?
- **Is it compliant with PEP8?**

※ PEP8 is is the etiquette of writing Python.

- Is it easy to manage and reuse?



I'll do it every day so that it becomes a habit

How to learn

Objectives

1. Learn how to think about the program with your peers
2. Use the basic elements of the program
3. Feel like a machine

How to learn

What does it mean to be able to do "programming"?

It is not about knowing a lot of imperative statements, but about being able to write your own program to solve a problem. First, you should be able to use the four arithmetic operations.

- Four arithmetic operations
- Conditional branching (if)
- Repetition (for)
- Functionization
- File input/output

(Extreme argument) You only need to remember this as a basic element for problem solving.

How to learn

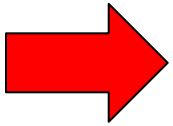
Objectives

1. Learn how to think about the program with your peers
2. Use the basic elements of the program
3. Feel like a machine

How to learn

When programming, put yourself in the machine's shoes, think of the machine in front of you as yourself, and write code that is easy to understand and less demanding.

	Concept	Example on real world
1	**Machine (Computer)**	**Myself**
2	**Program**	**Instructions** (from the teacher)
3	(Prepared) **Function**	**Tasks I can do**

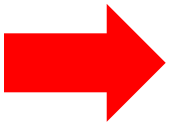


Think about how you would want to be instructed

Assignment review and preparation

Weekly class will explain the assignments you have submitted.
However, since this time is Day 1, I will also explain the preparation.

1. Let's use Python
2. Sorori shinzaemon
3. How many diffractions will cross Mt.Fuji
4. Kuri manju



Please work on your own after class and
submit your assignments in DIVER.

Check-out

3 minutes Please post the following point to Zoom chat.

Q. What do you do to graduate on time?