

## WEB 后端

1. **READING** web 基础知识 (TCP, restful...)  
prerequisite: None  
resources: [web入门](#)
- 2.1 django framework  
prerequisite: CSC148  
简介 : A start for web programmer. Django makes it easier to build better Web apps more quickly and with less code.  
resources : [basic tutorial](#)  
[e-commerce project](#)
- 2.2 flask framework  
prerequisite: CSC148  
简介 : 比django更简单易用的轻量级web框架, industry(e.x CPPIB, RBC)中internal system主流  
resources: [The Flask Mega-tutorial](#)
3. separate backend and frontend  
prerequisite: 2.1 or 2.2 , CSC148  
简介 : 简而言之就是把前端 (html, css, js部分从web application中分离)  
resources : **READING** : [The reason why we separate back and front end](#)  
Flask restful: [flask with restful](#)  
Django restful: [how to create a django restful api in 20 minutes](#)
4. Deployment  
prerequisite: An idea about how components of a website works together  
resources: (a) AWS: EC2 + RDS + R53, (b) Heroku, (c) DigitalOcean ...  
tutorial: (e.g.: Flask+AWS) [Post your python app](#)

## WEB 前端 [web前端主要靠实战, 知识点太杂, 简单了解]

1. **READING** web前段简介  
prerequisite: None  
resources : 知乎 : web前段如何入门<https://www.zhihu.com/question/32314049>
2. HTML&CSS&JS  
resources: [李炎恢 HTML CSS JavaScript Bootstrap 教程](#) 快速扫一遍
3. Anjular JS  
prerequisite: HTML&CSS&JS  
resources: [code school](#)
4. React JS  
prerequisite: HTML&CSS&JS  
resources: [code school](#)

## Multiplatform APP开发(开发一遍, web,ios,android都能用)

### 1. IONIC

### 2. REACT NATIVE

prerequisite: React, IOS or Android basics.

简介 : Write once, run multiplatform. Now react native is compatible with IOS\Android\Windows and so on.

resources:

- [facebook hand-on tutorials codelab](#)
- [your first react native example app - Hello World App](#)
- [luffy的项目代码示例](#)
- [why react native rather than native ios?](#)
- 即将推出的whalesper app的技术栈, 技术细节留意未来workshop

## Native Android

Recommended preparation: CSC207

resources:

编辑器 : Android Studio

[Udacity Android Beginner](#)

(survive) UI Widget, Intent, Activity Lifecycle, AsyncTask + Internetworking (volley),  
Fragment, ListView,

(ViewPager), Storing information,

(thrive) Multimedia, Notification broadcast & receive, View override, JNI, Gradle, Unit  
test

## Native iOS

Recommended Prerequisite: CSC108, CSC148, CSC207

resources:

所用语言: Swift (推荐) / Objective-C

所用编译器: Xcode

所用API: Cocoa链接 :

[Swift官方介绍](#)

[Swift官方教程](#)

[如何下载Xcode](#)

[掘金的iOS专页](#)

[TutorialPoint的Objective-C教程](#)

## Machine Learning :

Prerequisite: CSC108, STA247/STA257

Recommended Preparation: CSC148, STA248/STA261

1. **READING** Machine Learning简介  
resources: [机器之心 machine learn 入门](#)  
[Generating Stories about Images](#)
2. 神经网络入门  
resources:  
    NN+CNN: [standford cs231n](#) (BEST tutorial for entry level machine learning)  
    RNN: [standford cd224d](#)  
    LTST: [理解LSTM](#)
3. NLP 入门  
resources: [represent word using vector](#)  
    相关项目 UT助手chatbot
4. 2016 paper list  
    [ICML 2016 accepted papers](#)  
    [NIPS 2016 accepted papers](#)

## IOT+Application of AI

- Idea:
  - Explore what we can do with IOT technologies. This group would be much less intense than data science.
  - Prepare for (probably) start a project in summer time.
- Prerequisite:
  - CSC258 (or equivalent courses. Should be comfortable with running programs on a board)
  - Be comfortable with playing around with circuits
- Recommended preparation:
  - CSC358 or be comfortable with talking about TCP/IP, DNS, etc
  - CSC401 or be comfortable with NLP
- Reading:
  - Mark Zuckerberg's Jarvis: video demo  
1[<https://www.youtube.com/watch?v=KdQ54681no0>] demo 2  
<https://www.youtube.com/watch?v=PqvkhxNatyY> ]
  - How was Jarvis built?  
<https://www.facebook.com/notes/mark-zuckerberg/building-jarvis/10154361492931634/> ]
  - Internetworking with Arduino [Arduino manual]