

# Flask Tutorial

Rafael Castro G. Silva

Department of Computer Science  
University of Copenhagen

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## Learning Goals

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- 1 Learn what is Flask
- 2 Learn how to bootstrap a Flask web application
- 3 Learn some basic Flask concepts
- 4 Learn the Model View Control (MVC) pattern
- 5 Learn basic Docker

# Flask Introduction

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## Other frameworks out there

- Ruby on Rails
- Django (Python)
- Java Spring
- Symfony (PHP)



# Who uses Flask?

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reddit

Uber

# What do I need know?

# What do I need know?

- Very basic Python
  - Variables, functions, indentation, lists, maps (dictionaries), if-then-else, for loops, import libraries
- Terminal commands: `ls`, `cd`, `pwd`...
- Basic HTML
- CSS (optional)
- SQL

## Flask Concepts

# The app variable

- Python decorator
- GET POST

# Templates

```
1 import numpy as np
2
3 def incmatrix(genl1,genl2):
4     m = len(genl1)
5     n = len(genl2)
6     M = None #to become the incidence matrix
7     VT = np.zeros((n*m,1), int) #dummy variable
8
9     #compute the bitwise xor matrix
10    M1 = bitxormatrix(genl1)
11    M2 = np.triu(bitxormatrix(genl2),1)
12
13    for i in range(m-1):
14        for j in range(i+1, m):
15            [r,c] = np.where(M2 == M1[i,j])
16            for k in range(len(r)):
17                VT[(i)*n + r[k]] = 1;
18                VT[(i)*n + c[k]] = 1;
19                VT[(j)*n + r[k]] = 1;
20                VT[(j)*n + c[k]] = 1;
21
22    if M is None:
```



- Python decorator

# MVC

Let's write our web apps!