TEAM H: Progress Meeting

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13.Oct.2023

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Remind Our Project

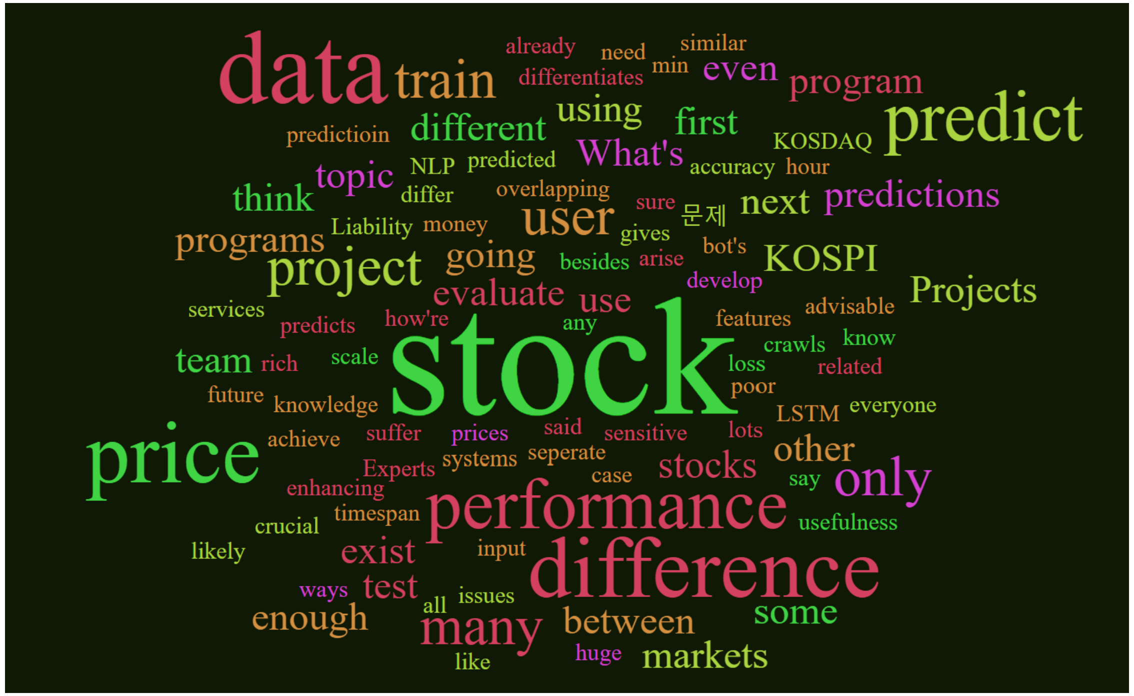
Stock Price Prediction Systems

- Not real time prediction
- Predict price of SAMSUNG Electronics

Feedbacks

What's the difference between our project and other services?

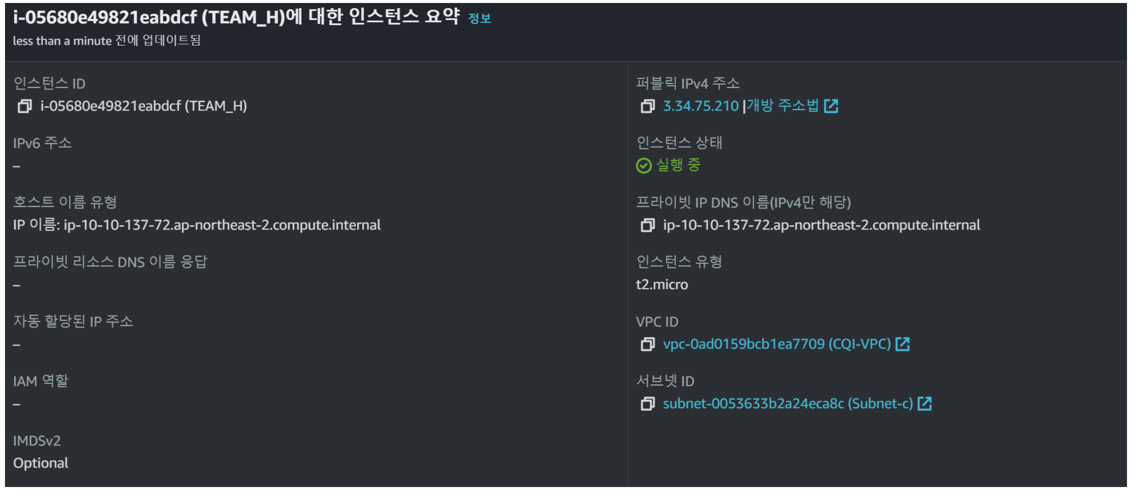
Predicting stock prices is difficult.



What's the difference?

Predicting stock prices is difficult.

Front-end Progress : Django Installation



i-05680e49821eabdcf (TEAM_H)에 대한 인스턴스 요약 정보

less than a minute 전에 업데이트됨

인스턴스 ID
i-05680e49821eabdcf (TEAM_H)

IPv6 주소
–

호스트 이름 유형
IP 이름: ip-10-10-137-72.ap-northeast-2.compute.internal

프라이빗 리소스 DNS 이름 응답
–

자동 할당된 IP 주소
–

IAM 역할
–

IMDSv2
Optional

퍼블릭 IPv4 주소
3.34.75.210 |개방 주소법

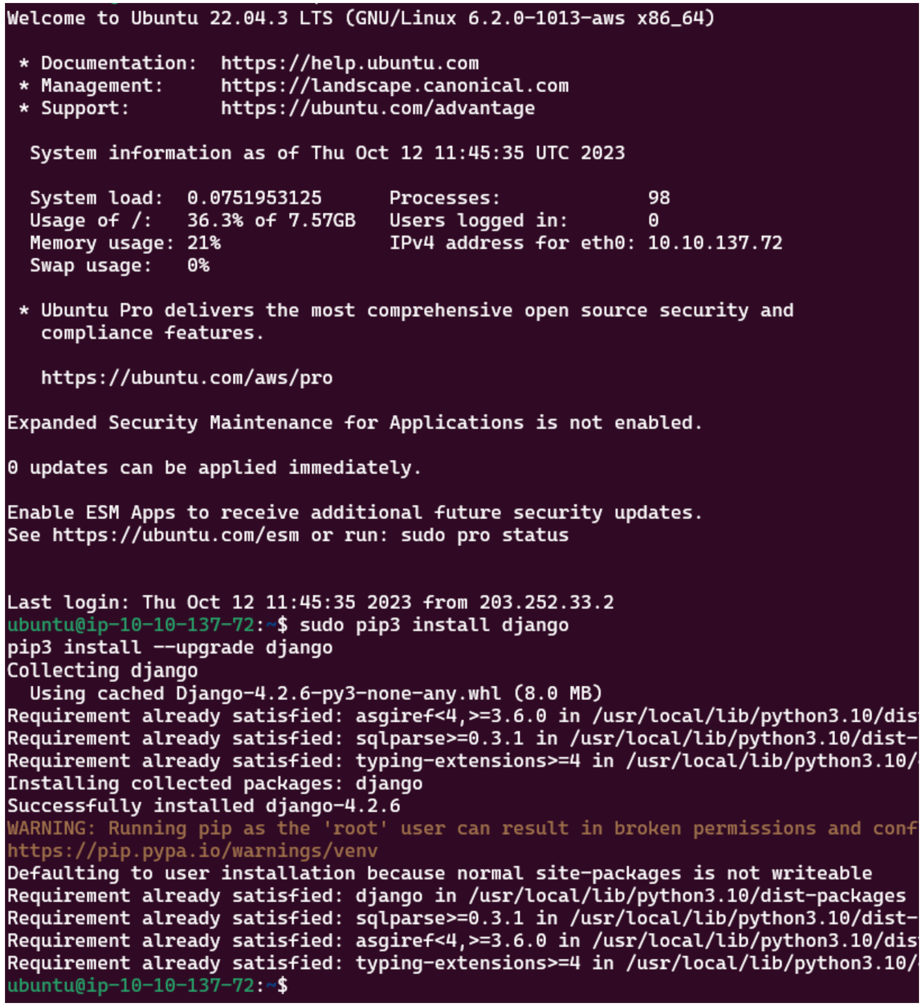
인스턴스 상태
✓ 실행 중

프라이빗 IP DNS 이름(IPv4만 해당)
ip-10-10-137-72.ap-northeast-2.compute.internal

인스턴스 유형
t2.micro

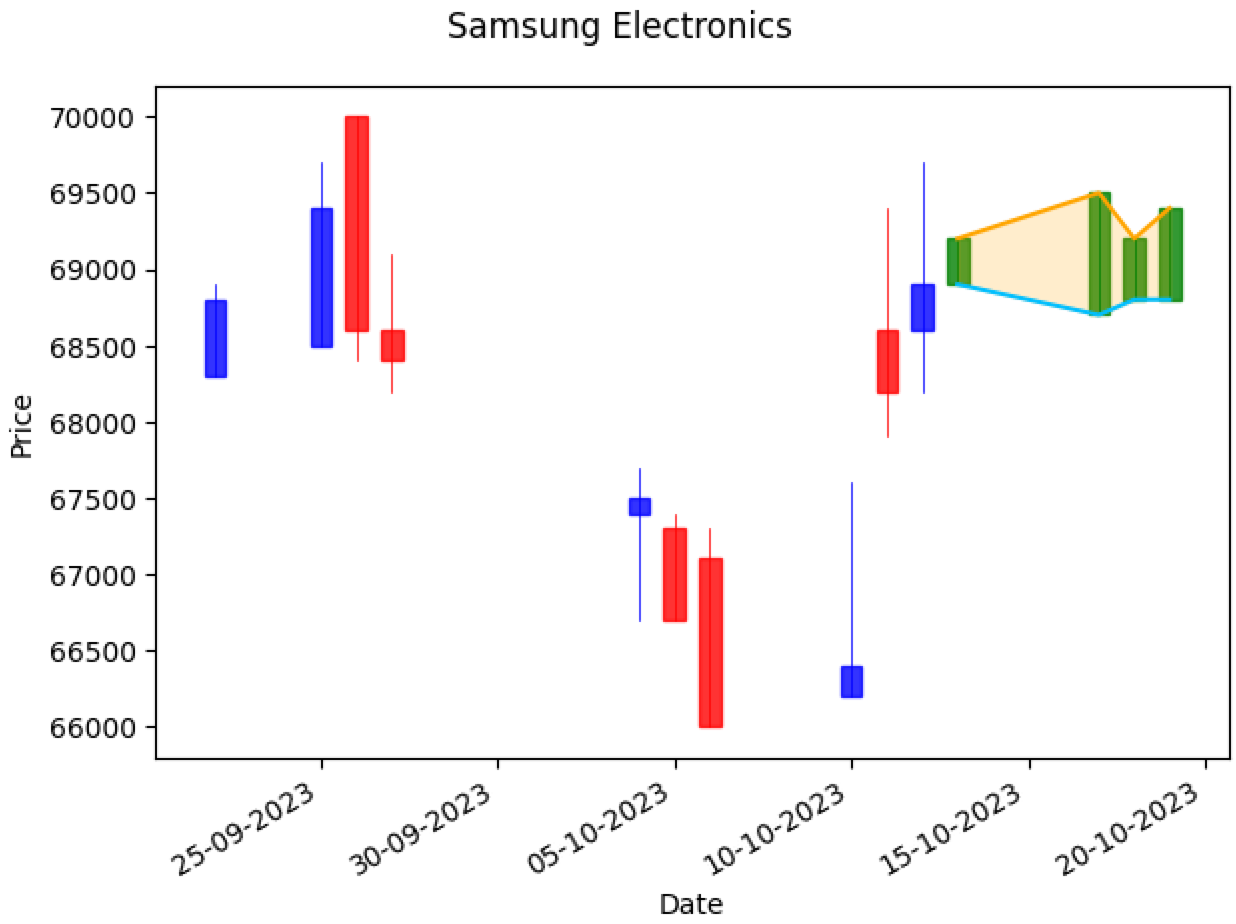
VPC ID
vpc-0ad0159bcb1ea7709 (CQI-VPC)

서브넷 ID
subnet-0053633b2a24eca8c (Subnet-c)



```
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1013-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Thu Oct 12 11:45:35 UTC 2023

  System load:  0.0751953125      Processes:             98
  Usage of /:   36.3% of 7.57GB   Users logged in:       0
  Memory usage: 21%               IPv4 address for eth0: 10.10.137.72
  Swap usage:   0%

 * Ubuntu Pro delivers the most comprehensive open source security and
   compliance features.

   https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


Last login: Thu Oct 12 11:45:35 2023 from 203.252.33.2
ubuntu@ip-10-10-137-72:~$ sudo pip3 install django
pip3 install --upgrade django
Collecting django
  Using cached Django-4.2.6-py3-none-any.whl (8.0 MB)
Requirement already satisfied: asgiref<4,>=3.6.0 in /usr/local/lib/python3.10/dis
Requirement already satisfied: sqlparse>=0.3.1 in /usr/local/lib/python3.10/dist-
Requirement already satisfied: typing-extensions>=4 in /usr/local/lib/python3.10/
Installing collected packages: django
Successfully installed django-4.2.6
WARNING: Running pip as the 'root' user can result in broken permissions and conf
https://pip.pypa.io/warnings/venv
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: django in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: sqlparse>=0.3.1 in /usr/local/lib/python3.10/dist-
Requirement already satisfied: asgiref<4,>=3.6.0 in /usr/local/lib/python3.10/dis
Requirement already satisfied: typing-extensions>=4 in /usr/local/lib/python3.10/
ubuntu@ip-10-10-137-72:~$
```

Front-end Progress : Test Plot of Stock Price



Back-end Progress: Data class for train and test

Train Date : 2000~2022

Test Data : 2023

```python
class FinanceDataset(Dataset):
    def __init__(self, data_args, mode='train'):
        ...
        if self.stock_id == 'samsung':
            if mode == 'train':
                df = fdr.DataReader('005930','2000','2022')
            elif mode == 'test':
                df = fdr.DataReader('005930','2022','2023')
            else:
                raise ValueError(f'Invalid dataset mode : \"{mode}\"')

            df.drop('Change', axis=1)
        ...
```

Back-end Progress : Implementation LSTM

```
class FinanceLSTM(nn.Module):
    def __init__(self, model_args):
        super(FinanceLSTM, self).__init__()

        self.output_length = model_args.output_length
        self.num_layers = model_args.num_layers
        self.input_size = model_args.input_size
        self.hidden_size = model_args.hidden_size
        self.fc_hidden_size = model_args.fc_hidden_size
        self.dropout = model_args.dropout

        self.lstm = nn.LSTM(input_size = self.input_size, hidden_size = self.hidden_size,
                            num_layers = self.num_layers, dropout = self.dropout, batch_first = True)
        self.fc1 = nn.Linear(self.hidden_size, self.fc_hidden_size)
        self.fc2 = nn.Linear(self.fc_hidden_size, self.output_length)
        self.relu = nn.ReLU()
```

Back-end Progress : Implementation LSTM

```
class FinanceLSTM(nn.Module):
...
    def forward(self, x):

        h_0 = torch.Tensor(torch.zeros(self.num_layers, x.size(0), self.hidden_size))
        c_0 = torch.Tensor(torch.zeros(self.num_layers, x.size(0), self.hidden_size))

        output, (hn, cn) = self.lstm(x, (h_0, c_0))
        hn = hn.view(-1, self.hidden_size)
        logits = self.relu(hn)
        logits = self.fc1(logits)
        logits = self.relu(logits)
        logits = self.fc2(logits)

        return logits
```

Back-end Progress : Implementation LSTM

Plans for Next Progess Meeting

Donghun Jung

- Creating the initial UI/UX design

Chanyoung Lee, Yujin Seo

- Implementing GRU, CNN, Transformer