Navid Madani

I have received my BSc. in computer engineering at the Department of Electrical and Computer Engineering, University of Tehran. Currently I am a senior machine learning engineer and data scientist at Tap30 Co. where we develop state of the art solutions to online taxi fleet problems.

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EXPERIENCE

Senior Data Scientist and Machine Learning Engineer, Tap30 Co. — *Tehran*

Nov 2017 - PRESENT

Under the supervision of Dr. Hamid Mahini CTO of the company and my professor at university.

Used machine learning algorithms such as regression models, tree-based models, Matrix Factorization, boosting models, FC-NN, CNN, RNN, LSTM, GRU, ConvLSTM and many clustering algorithms.

Used tools and platforms such as Python, Pytorch, Keras, Tensorflow, R, Spark, Hadoop, Redis, MongoDB, Postgresql, Docker.

We developed first ride sharing service in Iran known as LINE.

- **Design and implementation of ride sharing intelligent services**

  Ride sharing prediction, a model to predict the probability of finding a match for each ride sharing request based on temporal and spatial data.

  Ride sharing pricing and matching algorithms, developed a simulation environment to test and implement various matching and pricing models to optimize ride sharing performance.

- **Design and implementation of dynamic surge pricing model**

  Using various models to **predict supply and demand**, we developed algorithms to calculate price of ride requests dynamically to **maintain an optimized fulfillment rate**.

- **ETA calculation based on driver locations**

  Create an online evolving **matrix factorization** model to calculate Estimated Trip Arrival time country wide.

- **Taxi dispatch simulation**

  A configurable dispatch simulation considering user action probabilities such as passenger give ups and give up distributions and system feedback loops.

- **Design and implementation of an infrastructure to deploy**

SKILLS

Programming

Python/ C/ C++/ Java/ Matlab/ Tensorflow/ Pytorch/ Keras/ Verilog/ VHDL/ R/ Node.js/ JavaScript/ HTML/ CSS/ SQL/ Bash Script/ React

Technologies

Spark/HDFS/Hadoop/Airflow/ OSM/OSRM/Elastic search/ Docker/ Docker Compose/ Mininet/ Git

Languages

Persian/ English

machine learning models on a distributed system.

Responsible for designing and implementing an infrastructure to deploy neural network models on a distributed system and training it with online data.

- **Design and implementation of ETL pipelines to prepare required datasets from real-time data**

Teacher assistant, Tehran university — *Tehran*

- **Advanced Programming** _ Jan 2017-Dec 2017
- **Data structures** _ Sep 2018 - Jan 2019
- **Design and analysis of Algorithms** _ Sep 2018 - Jan 2019

EDUCATION

University of Tehran , B.Sc. , Computer Engineering -Software

2014 - 2019

- Cumulative GPA 3.70/4 (17.28/20)

Borhan High School, Diploma, Math and Physics Discipline

2010-2014

- GPA 4/4 (20/20)
- Ranked 151 among near 300000 students in university entrance exam

AWARDS

- Won the "**Best Undergraduate Thesis/Project award**" from from Tehran University.

  My thesis was **"Match Prediction in Ride Sharing Services"** under the supervision of Dr. Hamid Mahini CTO of Tap30 and my professor at the university and later I used it in **LINE the first ride sharing service in Iran.**

- Won the **"Most Influential Project in Industry award"** from Tap30, Digikala and Hamkaran System companies.

PROJECTS

Telegram search bot | Insight Co.

- Building a search bot on top of telegram bots using Elasticsearch search engine and python to explore public groups and channels data in telegram.

- Developing a crawler in python to explore and index new channels and it's contents in telegram.

Linkedoon (Program similar to linkedin)| Advance Programming

- implemented using C++ and QT

Chat system with file sharing , Multithread | Operating System

- implemented using C language , Sockets ,and Pthread Library

Multi-client Snake Game|Computer Networks

- Implemented Using Python, PyGame and deployed on Mininet

Maze Solver | Artificial Intelligence

- Implemented in Python using informed and uninformed search methods

MLP Hardware Description for digit detection on MNIST dataset| CAD

- Designed and Implemented using VHDL on FPGA

Browser Exploitation| Network Security

- Using Kali, Windows 7, VirtualBox, and BeEF on Internet Explorer

Phishing Attack on UT's Central Authentication System (CAS) | Network Security

- Using Kali, HTTrack, The Social Engineering Toolkit (SET), and PHP

Asghar Torrent (Similar network to the BitTorrent)|Computer Networks

- Implemented Using Python, Deployed and tested on Mininet

SDN (Learning Switch) Implementation|Computer Networks

- Implemented With the ability to find spanning tree Using Floodlight OpenFlow Controller and Java

DNS Hierarchy Simulation, TCP Implementation|Computer Networks

- Implemented Using Java and Deployed on Mininet

Atalk an actor-based programming language | Compiler Design and Implementation

- Designed and Implemented using Antlr, Java and Tested on MIPS simulator QtSpim

CFS Scheduler, Semaphore with PIP and avoidance of starvation | OS Laboratory

- implemented in the linux 2.6 kernel using C programming language

Pipelined MIPS Processor | Computer Architecture

- Capable of Hazard Detection and Data Forwarding implemented in Verilog