

# Aref Moradi

MACHINE LEARNING ENGINEER

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## Education

### TU/e and KTH

Stockholm, Sweden

MASTER'S DEGREE IN DATA SCIENCE

Sep. 2018 - Aug. 2020

- First year TU/e, Second year KTH
- Attained EIT scholarship of excellence. Tuition fee waiver.
- Average Grade: 8.28/10

### Amirkabir University of Technology

Tehran, Iran

B.S. IN SOFTWARE ENGINEERING

Sep. 2013 - Aug. 2018

- Ranked in the top 1000 out of 952,000 participants in the university entrance exam (Konkour)

## Notable Projects and Courses

### TU/e and KTH

Eindhoven and Stockholm

MASTER'S IN DATA SCIENCE

- Scalable Machine Learning and Deep Learning: **A**, **Histogram Method for Adversarial Example Detection Project**
- Data intensive computing: **A**, **Real-time Subtitle Rating Project**
- Self-studied Mathematics for Machine Learning book
- Advanced Algorithms: **A**
- Data Engineering: **A**
- Applied Statistics: **A**
- Visualization: **A**, **3D Rendering Project**
- Self-studied Reinforcement Learning: An Introduction
- Self-studied All of Statistics: Concise Course in Statistical Inference by Wasserman, **My Solutions**

### Amirkabir University of Technology

Tehran, Iran

B.S. IN SOFTWARE ENGINEERING

- Engineering Mathematics: **A**
- Foundations of Matrices and Linear Algebra: **A**
- Signals and Systems: **A**
- Statistical Machine Learning (Master's course taken during Bachelor's): **B**

## Research and Teaching Experience

### Klarna

Stockholm, Sweden

WEB AUTOMATION RESEARCH TEAM

- Contributed to the paper: **The Klarna Product Page Dataset: A Realistic Benchmark for Web Representation Learning**
- Worked in collaboration with IVL to create a carbon emissions estimator model for textile products as part of my master thesis: **Combining Learned and Analytical Models for Predicting CO2e Emissions in Textile Products**

### Institute for Cognitive Sciences Studies

Tehran, Iran

INTERNSHIP

Aug. 2017 - Sep. 2017

- Worked with **fNIRS** brain imaging device for analyzing brain signals of finger tapping.
- Translated and edited a Persian manual to be used by future students of the institute.

### Amirkabir University of Technology

Tehran, Iran

TEACHING ASSISTANT

- Data Structures and Algorithms.
- Artificial Intelligence.
- Engineering Statistics.

## Work Experience

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### Klarna

Stockholm, Sweden

MACHINE LEARNING RESEARCH ENGINEER

Aug. 2019 - Current

- Scaling and deploying ML models using AWS services (e.g. **AWS Lambda**, **AWS Batch**).
- Implemented offline dataset saving for **Reinforcement Learning** agent to allow offline training.
- Implemented **state-of-the-art graph neural network** algorithms to create a product-page-scraper.
- Creating efficient representations of web-pages to bootstrap training of RL agent.
- Designed and implemented pipelines for pre-processing **semi-structured** web page data into efficient tree data structures.
- Contributing to Klarna's open source **Web Traversal Library**.
- Extensive work with **PyTorch** and **Ray Tune** for hyperparameter tuning.
- Contribute in creating and maintaining **CI/CD** pipelines for our ML repositories using **Jenkins**.
- Worked on developing a data layer to give analysts access to user data in an efficient way using **AWS Redshift**.
- Worked with **Apache Airflow** to schedule and run jobs for data pre-processing.
- Developed developer tools **Docker** with the pre-installed packages to make analyst on-boarding easier.

### CafeBazaar

Tehran, Iran

DATA ENGINEER - BIGGEST AD MARKETPLACE IN IRAN WITH MORE THAN 10 MILLION MONTHLY USERS.

Sep. 2017 - Sep. 2018

- Implemented **Ad category classifier**.
- Implement, deploy and maintain **Spark** and **Apache Airflow** applications for various ETL pipelines.
- Implemented Chat data clustering to be used for generating prepared messages.
- Design and analyze user funnel in chat application to allow data-driven decisions and determine business KPI's.
- Scrum master of chat team with great knowledge of agile scrum software processes.

### CafeBazaar

Tehran, Iran

ANDROID DEVELOPER - BIGGEST AD MARKETPLACE IN IRAN WITH MORE THAN 10 MILLION MONTHLY USERS.

Aug. 2016 - Sep. 2017

- Divar Lead Android Client Developer and Software Engineer.
- Held up Android development workshops for the other team members.
- Designed, developed and published ad acquisition multi-platform chat client with more than 10 million users.
- Worked with RxJava and event driven programming for implementing real-time chat application.
- Extensive knowledge and passion in **OOP** best practices and writing **clean and maintainable** code.

### SpotYet

Stockholm, Sweden

SOFTWARE DEVELOPER/CO-FOUNDER - SLACKBOT FOR REMOTE CONNECTIONS

- SpotYet is a Slackbot for randomly matching people in channels with fun ice-breakers.
- Back-end development using AWS. Specifically **AWS Lambda** and **DynamoDB**.
- Minor contributions in front-end development in **React**.
- Currently being used by more than 40 companies without any advertisement.

## Skills

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### Programming Languages

- Python, SQL, Java

### Tools and Libraries

- PyTorch, AWS, Docker, Spark, TensorFlow, Android Development

## Certificates

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### TOEFL

Nov. 2021

IBT

- Reading: 29 Listening: 30 Speaking: 30 Writing: 29 Total: 118

### GRE

Oct. 2017

GENERAL TEST

- Quantitative Reasoning: 167/170, Verbal Reasoning: 154/170, Analytical Writing: 5/6