

# **Ahmed Imam Shah**

**♀** Istanbul, Turkey

a-imamshah.github.io

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### PERSONAL STATEMENT

Solutions-oriented high honor graduate student motivated to research and strive in the field of computer vision and deep learning. Currently working on deep unsupervised learning for object tracking problems.

### **EDUCATION**

09.2020 – present Istanbul, Turkey

## M.S. Computer Science and Engineering

Koç University ∂

#### **Core Electives:**

- Computer Vision with Deep Learning
- Deep Unsupervised Learning
- Medical Image Analysis
- Parallel Programming
- Computer and Network Security

**Supervisors:** Prof. Dr. Yücel Yemez ∂ and Prof. Dr. Aykut Erdem ∂

01.2016 – 06.2020 Ankara, Turkey

## **B.S. Electrical and Electronics Engineering**

Bilkent University *⊘* 

#### **Core Electives:**

- Neural Networks
- Introduction to Robotics
- · Introduction to Machine Learning
- Computer Data and Organization

02.2019 – 06.2019 Krakow, Poland

### **Erasmus+ Exchange Program**

AGH University of Science and Technology ∂

#### **Core Electives:**

- Digital Image Processing and Vision Systems
- Computer Networks
- Digital Signal Processing
- Modern Computer Architectures

08.2009 – 06.2015 Lahore, Pakistan

### **GCE Advanced Level**

Aitchison College ⊘

### **Subjects:**

- Physics
- Chemistry
- Mathematics
- Computer Science

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### PROFESSIONAL EXPERIENCE

09.2020 – present Istanbul, Turkey	Graduate Research Fellow  KUIS Artificial Intelligence Laboratory   Researching in the field of visual attention models for object tracking and segmentation in synthetic videos using deep unsupervised learning.
09.2020 – present Istanbul, Turkey	Graduate Teaching Assistant Koç University ℰ Responsible for preparing course content, leading labs, conducting problem- solving sessions, and holding office hours to answer students' questions.
07.2018 – 08.2018 Istanbul, Turkey	<b>R&amp;D Intern</b> Arçelik A.Ş ⊘ Responsible for developing and testing desktop application for detailed analyzing and graphical representation of log files of refrigerator motor.
06.2018 – 07.2018 Ankara, Turkey	<b>R&amp;D Intern</b> Infinia Mühendislik Ltd. Şti. ⊘ Interfacing power-efficient of Bluetooth module for wearable electronics in emergency situations.

### **PROJECTS**

## Object Discovery and Tracking using Slot Attention $\mathscr D$

Using deep unsupervised learning techniques to discover objects in synthetic videos and track them temporarily. PyTorch framework is used for implementation.

## Re-implementation of "Object-Centric Learning using Slot Attention" $\mathscr D$

Reproducing the results of the unsupervised object discovery model from the paper  $\mathscr{O}$  by using Knet deep learning framework for Julia language.

## Re-implementation of "Pixel Convolutional Neural Network" ⊘

Reconstruction "Pixel Convolutional Neural Network" ⊘ an auto-regressive generative model using Knet deep learning framework in Julia language.

### **Visual Odometry Integrated with Inertial Navigation System**

A localization system for vehicles developed for Ardic Labs  $\mathscr{D}$  using an inertial navigation system aided by visual odometry algorithms for efficient navigation in the absence of GPS.

#### **CERTIFICATES**

### Responsible Conduct of Research for Engineers *∂*

Collaborative Institutional Training Initiative

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### **COURSES**

## Applied Data Science with Python Specialization $\mathscr{D}$

University of Michigan | Coursera

#### **Constituent Courses:**

- Introduction to Data Science
- Applied Plotting, Charting & Data Representation
- Applied Machine Learning
- Applied Text Mining
- Applied Social Network Analysis

## Al Product Management Specialization $\mathscr D$

Duke University | Coursera

### **Constituent Courses:**

- Machine Learning Foundations for Product Managers
- Managing Machine Learning Projects
- · Human Factors in Al

#### Data Science Ethics *⊘*

University of Michigan | Coursera

### **SKILLS**

### **Programming and Computing**

Python, Julia, MATLAB, Java, C, C++, VHDL, SQL

## **Artificial Intelligence Tools**

Scikit-learn, PyTorch, TensorFlow, Knet, Google Colab, Jupyter Notebook

#### **Electronics and Simulations**

Arduino, FPGA, SPICE, Circuit Design and Implementation, Network Simulation on Packet Tracer, Instrumentation, and Electrical Measurements

### **Office Suite**

Microsoft Office programs (Access, Word, Excel, PowerPoint), LibreOffice, Google Docs

### **Operating Systems**

Windows, Linux, macOS, Android

#### **Other Libraries**

OpenMP, OpenCV, Pandas, Numpy, CUDA

#### **LANGUAGES**

English	• • • •	Urdu	• • • • •
Turkish	• • • • •	German	• • • • •

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