

# F. Han Keceli

COMPUTER SCIENTIST · AUTONOMOUS DRIVING PERCEPTION ENGINEER

Munich, GERMANY

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## Objective

A part-time(werkstudent) job opportunity that will allow me to utilize my deep learning and autonomous vehicles researching skills and attention to detail to further develop my abilities in the field of computer science.

**My key research question is:** what is the role of time in machine perception and how can we leverage the robust perceptual mechanisms of autonomous vehicles to improve upon the generalizability and robustness of machine systems? Towards this goal of building and understanding more robust ML systems, my research has centered on novel architectures with Spatio-temporal learning algorithms that leverage by Self-supervised method with Attention mechanism(Vision Transformers).

## Education

### Technical University of Munich

M.Sc. IN INFORMATICS

- Computer Graphics and Vision
- Machine Learning and Analytics
- Scientific Computing and High Performance Computing

Munich, DE

Oct. 2022 - Present

### Cankaya University

B.Sc. IN COMPUTER SCIENCE

Ankara, TR

Feb. 2017 - Jun. 2021

## Experience

### AVL Software and Functions GmbH

PERCEPTION SOFTWARE ENGINEER(PART-TIME)

- Labelling Traffic Sign Point-Cloud data using CloudCompare tool.
- State of the art literature review for the upcoming new client project for the Traffic Sign Recognition.
- Development of object lane assessment module with respect to ego vehicle position using C++ for the internal AVL Dynamic Ground Truth System™ project.
- Development of the multiple rosbags data conversion for the internal R&D project.
- PoC researching and visualizing of FMCW LiDAR(4D) data.
- Development of the clustering methods using FMWCW LiDAR data.

Unterschleißheim, DE

Sep. 2022 - Present

### AVL Research and Engineering Turkey HQ

AUTONOMOUS DRIVING DEVELOPMENT ENGINEER

- Preparation of Level 3 & Level 5 requirements for ADAS features(Client: Canoo).
- Development of the Blind Spot Monitoring Check features using C++(Client: Canoo).
- Development of the Traffic Sign and Light Recognition and Real Target Object Selection components using C++(Client: Canoo).
- Development of the Object Assessment module which interpret all object-related information detected by the perception and assign it to the individual objects using C++(Client: Canoo).
- Responsible to developing Multi-Lane detection module for Internal Level 4 Autonomous Vehicle Development Project using Python/ROS.
- Development of the Driveable Area Detection by leveraging Self-supervised learning using Python/PyTorch/ROS as a research target project.
- Development of the classification of the road lane markings using Python/OpenCV.
- Responsible to computation platform integration, checking drive-by-wire system, sensors adjustment, CAN Monitoring & Debugging and preparing vehicle start pipeline in Deployment-Test Vehicle Team.

Istanbul, TR

Nov. 2021 - Aug. 2022

### Baykar Technologies

COMPUTER VISION SOFTWARE INTERN(VOLUNTARY INTERNSHIP)

- Worked on the detection and tracking of the objects and data identified with the help of the high-resolution image data received from gimbal for the Unmanned Aerial Vehicles(UAVs).
- Improved Optical flow technique in order to tracking dynamic moving objects.

Istanbul, TR

Aug. 2021 - Sep. 2021

### Titra Technology

AUTONOMOUS SYSTEMS INTERN(VOLUNTARY INTERNSHIP)

- Worked on motion planning for the prediction tasks of the autonomous systems.

Ankara, TR

Jun. 2021 - Jul. 2021

## Ford Automotive Industry (Ford Otosan)

Ankara, TR

AI RESEARCH SCIENTIST INTERN & SOFTWARE ENGINEERING INTERN

Jul. 2020 - Sep. 2020

- Developed online, interactive video and image annotation computer vision tool for Autonomous Vehicles(TypeScript, Python, JavaScript).
- Involved basic Autonomous Vehicles principles and features(Gain Automotive Sector Know-How).

## Datateam Information Technologies

Ankara, TR

SOFTWARE ENGINEERING INTERN

Jul. 2019 - Sep. 2019

- Worked on the development and testing of the company's Graph Engine project(NoSQL).
- Familiarized with graph models.

## SPP42

Ankara, TR

MACHINE LEARNING ENGINEER INTERN(VOLUNTARY INTERNSHIP)

Jun. 2018 - Aug. 2018

- Worked on detecting fake car plates which are sent by a client insurance company.
- Developed an interactive weather application using Yahoo Weather API.

## Projects

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### 3D Object Detection for Autonomous Vehicles

[Source](#)

GRADUATION PROJECT

- I worked on the development of the 3D models by using LiDAR and RGB(Camera) data collected from ego vehicles in order to build an end-to-end system for 3D Object Detection.(Dataset: Woven Planet Level 5)

### Implementing Neural Networks from Scratch in Java

[Source](#)

WITHIN SCOPE OF OOP WITH JAVA COURSE

- I've been involved in building matrix libraries and neural networks from scratch for an OOP-Java course.

### CANCLUB Student Registration System

[Source](#)

WITHIN SCOPE OF WEB DEVELOPMENT COURSE

- I've built a student registration system by using C#, ASP.NET and MsSQL for the Web Development course.

### SMS Spam Detection

[Source](#)

WITHIN THE SCOPE OF DATA SCIENCE COURSE

- I've built a spam detection system from the received SMS within the scope of the Data Science course.

### Gaze Detection

[Source](#)

WITHIN THE SCOPE OF IMAGE PROCESSING COURSE

- I've built a gaze detection system in order to receive the location of the iris within the scope of the Image processing course.

### Lung Cancer Risk Analysis

[Source](#)

WITHIN SCOPE OF KODLUYORUZ ACADEMY CAPSTONE PROJECT

- I've built a lung cancer risk analysis system with a team by analyzing real hospital data within the scope of the Kodluyoruz academy capstone project.

### Racing Game Project in C++

[Source](#)

WITHIN THE SCOPE OF OOP WITH C++ COURSE

- I've built a basic racing game by using the rlutil.h library within the scope of the OOP course.

### Twitter Data Analysis

[Source](#)

TEAM MEMBER

- I've participated in one of my professor projects with master students.

## Computer Skills

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<b>Programming Languages</b>	C/C++, Python, Octave, LaTeX
<b>Web Development &amp; Database</b>	HTML5/CSS, PHP, SQL
<b>Libraries</b>	NumPy, SciPy, Pandas, OpenCV, Matplotlib, scikit-learn
<b>FrameWorks</b>	PyTorch, CUDA, TensorFlow, Keras
<b>OS</b>	Linux(primary), Windows
<b>Tools</b>	Git, JIRA, Confluence, Jenkins

## Interests

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Object Detection, Object Tracking, Computer Vision, Sensor Fusion, Real-Time Distributed Systems, Parallel Computing, Edge AI

## Certificates

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2022	<b>GPU Programming Specialization</b> , by Johns Hopkins University on Coursera.	<i>Currently Enrolled</i>
2022	<b>First Principles of Computer Vision Specialization</b> , by Columbia University on Coursera.	<i>Currently Enrolled</i>
2021	<b>Introduction to Machine Learning in Production</b> , by DeepLearning.AI on Coursera.	<a href="#">Certificate Link</a>
2021	<b>Robotics: Aerial Robotics</b> , by University of Pennsylvania on Coursera.	<a href="#">Certificate Link</a>
2021	<b>Self-Driving Fundamentals: Featuring Apollo</b> , by Baidu and Apollo on Udacity.	<a href="#">Certificate Link</a>
2020	<b>DeepLearning.AI TensorFlow Developer Professional Certificate</b> , by DeepLearning.AI on Coursera.	<a href="#">Certificate Link</a>
2020	<b>Generative Adversarial Networks (GANs) Specialization</b> , by DeepLearning.AI on Coursera.	<a href="#">Certificate Link</a>
2020	<b>AI For Everyone</b> , by DeepLearning.AI on Coursera.	<a href="#">Certificate Link</a>
2020	<b>Self-Driving Cars Specialization</b> , by University of Toronto on Coursera.	<a href="#">Certificate Link</a>
2020	<b>Machine Learning Crash Course Mentorship Program</b> , by Google Developers.	<a href="#">Certificate Link</a>
2020	<b>Kaggle Master Program</b> , by Global AI Hub.	<a href="#">Certificate Link</a>
2019	<b>Applied Data Science and Machine Learning Bootcamp</b> , by Kodluyoruz Academy.	<a href="#">Certificate Link</a>
2019	<b>Deep Learning Specialization</b> , by DeepLearning.AI on Coursera.	<a href="#">Certificate Link</a>
2018	<b>Machine Learning</b> , by Stanford University on Coursera.	<a href="#">Certificate Link</a>

## Languages

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<b>English:</b>	Professional Working Proficiency
<b>German:</b>	Elementary Proficiency
<b>Japanese:</b>	Limited Working Proficiency
<b>Turkish:</b>	Native Proficiency