Fatih Can Kurnaz *May 30, 1994*

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Summary

I am a master's student in the Computer Engineering Department, Middle East Technical University (Turkey). I also work in the same department as a research and teaching assistant along with working as a researcher in Kovan Research Lab. My research interests are human-like trajectory generation by using GANs, image generation from point clouds and data generation for tools.

Education

Middle East Technical University
Master's degree in Computer Engineering
CGPA:3.93

ANKARA, TURKEY
2017 – Present

Middle East Technical University
Bachelor degree in Computer Engineering
CGPA:3.11

ANKARA, TURKEY
2012 – 2017

Experience

Middle East Technical University Computer Engineering
Research And Teaching Assistant
I have been TA for

ANKARA, TURKEY
Jan '18 – present

- CENG 331 Computer Organization
- CENG 489 Int. to Security in Computing
- CENG 384 Signals and Systems for Computer Engineers
- CENG 49x Computer Engineering Design

Kovan Research Lab
Researcher

ANKARA, TURKEY
June '17 – present

- Currently working with **Burak Hocaoglu** and **Assoc. Prof. Sinan Kalkan** creating a tool dataset which would be helpful to robotic applications.
- Worked with **Assoc. Prof. Sinan Kalkan** on trajectory generation by using CycleGANs created from LSTMs. This project still on development and code is accessible in **Github**.
- Worked with **Assoc. Prof. Sinan Kalkan** on and perception module for CIRAK project which will track objects in the scene along with hands and gaze of the human.
- Created GuvenlikBekcisi(SafetyWatchdog) framework, which would create safety regions and control robot action around a human, on ROS for CIRAK project. Codes related to this project is accessible in **Github**.

Halmstad University
Research Internship

HALMSTAD, SWEDEN
June '19 – Sep '19

- Worked with **Tiago Cortinhal** and **Dr. Eren Erdal Aksoy** on point cloud to image generation.
- Created pix2pix like GAN pipeline.
- Currently this project still in development and first version of it is accessible from **Github**.

Kovan Research Lab
Internship

ANKARA, TURKEY
June '16 – Sep '16

- Worked with **Baskin Burak Senbaslar** and **Assoc. Prof. Erol Sahin** to create multi UAV controller on top of the hector_quadrotor ROS package and implemented my own PID controller for it. Code is available on **Github**.
- Worked with **Baskin Burak Senbaslar** and **Assoc. Prof. Erol Sahin** on iCub humanoid robot, Yarp, Kinect, and Visualeyez motion capture technologies in order to create a program that captures human emotion from the photo and reflects it on iCub's face. Code is available on **Github**.

Labris Networks
Internship

ANKARA, TURKEY
July '15 – Sep '15

- Worked on a project that gathered blacklisted URLs from different sources by using an Python script and classified them according to their source trust rating in an PostgreSQL database.
- Worked on their own OS to create a mechanism for handling blacklisted urls.

Projects

GuvenlikBekcisi(SafetyWatchdog)
Developer

Created a framework which would help user when s/he is working near or with a robot. It is implemented in ROS with C++. In order to achieve that we used safety regions for human and robot. These regions are defined in the system and robot acts different in each safety region. For example, in regions which are shared with a human user robot decrease its speed to make it safe for human user.

Random 2 DOF Robot Controller
Developer

Created 2 DOF robot models and their controller to generate data for Deep Learning projects.

NAR
Developer

Worked on creating a distributed peer-to-peer cloud service as senior project.

Human trajectory generation by using C-GAN
Developer

By using point cloud data for training I created a human trajectory generator which generates trajectories given a starting point and ending point(conditions to GAN).

Malware detection from binary files by using LSTM
Developer

In Keras created an LSTM network to classify binary malware files.

Publications

Kurnaz, F. C., et al., *ALET (Automated Labeling of Equipment and Tools): A Dataset, a Baseline and a Usecase for Tool Detection in the Wild*, 2019

Related Coursework

Undergrad Courses: Artificial Intelligence, Planning of Robotic Manipulation, Introduction to machine learning, Understanding Social Behavior

Graduate Courses: Deep Learning, Learning and Development in Robotics, Pattern Recognition, Statistical Data Analysis, Distributed Computing Systems

Skills

Technical knowledge:
  Good: ROS, Pytorch, Python, C++
  Familiar: Tensorflow, Keras, C ,R , Unity, Matlab.

Natural languages: Turkish *(mother tongue)*, English *(professional proficiency)*, German *(basic)*.

Interests

Research Interests Artificial Intelligence, Machine Learning, Generative Adversarial Networks, Understanding human decisions, Robotics, Recurrent Neural Networks.

Social Interests Reading, Watching Movies, Swimming

References

Associate Professor Erol Sahin

Associate Professor Sinan Kalkan

Assistant Professor Eren Erdal Aksoy