

# Zeynep Akkalyoncu

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## EDUCATION

### Middle East Technical University

- B.S. in Computer Engineering Sep 2013 – Jun 2017 (expected)
  - GPA: 3.31 / 4.00 - Honor Roll
  - Relevant coursework: Cloud computing, machine learning, natural language processing, artificial intelligence, computer graphics, computer networking

### TED Ankara College Foundation Private High School

- International Baccalaureate Diploma Programme Sep 2009 – Jun 2013
  - National Turkish Curriculum GPA: 93.20 / 100.00
  - International Baccalaureate Score: 40 / 45

## WORK EXPERIENCE

### Middle East Technical University

- Undergraduate Teaching Assistant Oct 2016 – Jan 2017
  - Collaborated with instructor in lab preparation and execution for the course *Data Structures*

### KOVAN Research Lab

- Undergraduate Research Intern Jun 2016 – Sep 2016
  - Worked on a multi-disciplinary research team focused on autonomous robots
  - Built a deep reinforcement learning agent that manipulates stacked objects in Python using TensorFlow
  - Wrote Python scripts to generate random scenes in Blender to train and test model

### ASELSAN Inc.

- Software Engineering Intern Jul 2015 – Sep 2015
  - Worked among system engineers pursuing commercial IoT solutions for avionic systems
  - Developed C++ program that processes accelerometer/gyroscope data of an MPU6050 motion sensor to track and plot movement of device in real time

### Middle East Technical University

- Undergraduate Teaching Assistant Nov 2015 – Jun 2016
  - Assisted students in their programming labs of the course *Introduction to C Programming*

## SKILLS

**Languages** C, C++, Python, SQL, C#, Java, HTML, CSS, JavaScript, Bash  
**Tools & Frameworks** Git, Django, Microsoft Azure, NLTK, TensorFlow, Xamarin

## PROJECTS

### Smart Shopping List

- Cross-platform Xamarin shopping list application in C# with Django RESTful backend in Python
- Makes tailored product suggestions with a hybrid recommendation system written in Python
- Augmented with a virtual assistant implemented in Python using NLTK and Tensorflow to respond to user speech input and help navigate the app

### Pen Glove

- Arduino based data glove that allows the user to write by moving their hand in the air
- Motion sensor data transferred to main computer via Mosquitto MQTT through the Bluetooth module
- Original user entry displayed on Processing GUI and character input recognized using Tesseract OCR

### Action Detector

- Machine learning classifier in MATLAB that labels the action performed in given video segments

### Ray Tracer

- Ray tracer written in C++ that renders scene definition files with multiple point and ambient lights
- Implements the full forward rendering pipeline and saves final rasterized image to .ppm file

## LANGUAGES

**Native/Bilingual** Turkish, English  
**Professional working proficiency** French  
**Limited working proficiency** Russian, Finnish