

# Mahmut Demir

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Honda Research Institute  
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<b>EDUCATION</b>	<i>M.Sc. in Electrical Engineering,</i> <b>Bogazici University</b> , Istanbul, TURKEY	2014 - 2016
	<i>(No degree) M.Sc. in Electrical Engineering,</i> <b>Sabanci University</b> , Istanbul, TURKEY	Sep-2012 - Mar-2013
	<i>Exchange Student,</i> <b>Waseda University</b> , Tokyo, JAPAN	2010 - 2011
	<i>B.Sc. in Electrical Engineering,</i> <b>Bogazici University</b> , Istanbul, TURKEY	2006 - 2012
<b>WORK EXPERIENCE</b>	<i>Autonomous Driving Software Engineer</i> Honda Research Institute, Mountain View, CA, USA	Aug.2016 - Present
	<i>Research &amp; Teaching Assistant</i> Bogazici University, Istanbul, TURKEY <ul style="list-style-type: none"><li>• Master's thesis: "Semantic Place Detection and Recognition"</li><li>• T.A. for selected courses: RobotControl, Artificial Intelligence, Numerical tools for EE Students, Energy Conversion and Electric Machines</li></ul>	Sep.2014 - Aug.2016
	<i>UAV Software Engineer</i> Baykar Aerospace Company, Istanbul, TURKEY <ul style="list-style-type: none"><li>• The company, in which I worked as a part of the software team, built the first and most advanced Unmanned Aircraft in Turkey and currently being used by Turkish Armed Forces.</li><li>• My main contributions: Embedded programming for safety critical applications. Designed and programmed the smart power control, smart battery charge and monitor units. Wrote an embedded program and simulation software for controlling the aircraft motor for normal operation and in case of emergency situations.</li></ul>	May.2013 - Aug.2014
	<i>Co-Founder</i> Base-Istanbul Makerspace, Istanbul, TURKEY <ul style="list-style-type: none"><li>• Founded the first community-operated co-working space located in Istanbul, Turkey. Lead the community there to create and collaborate on technology, DIY and start-up projects by means of organizing several hackathons, workshops and lectures</li></ul>	Feb.2012 - Jan.2014
	<i>Software Developer</i> AveaLabs, Istanbul, TURKEY <ul style="list-style-type: none"><li>• Developed an EKF based traffic estimation algorithm, generates a traffic report based on crowdsourced GPS data of the mobile phone users.</li></ul>	Feb.2012 - Oct.2012

- Created "the SmartBox", a raspberry powered gadget, that connects internet and displays live feeds, e-mails and notifications.

## RESEARCH EXPERIENCE

*Researcher* Sep.2012 - Mar.2013  
Cognitive Robotics Laboratory, **Sabanci University**, Istanbul, TURKEY

- Redesigned ROS navigation package to utilize holonomic motion capability of KUKA youBot robots.
- Developed an application to recognize shiny surfaced kitchen utensils.

*Undergraduate Researcher* 2008 - 2012  
Intelligent Systems Lab, **Bogazici University**, Istanbul, TURKEY

- Undergraduate thesis: "Multi Robot Exploration and Mapping." Constructed 5 small scale robots capable of vision based navigation, tele-operation and multi-robot communication.

*Undergraduate Researcher* Spring 2011  
Takanishi Humanoid Robotics Lab, **Waseda University**, Tokyo, JAPAN

- Redesigned HMM based hand gesture recognition algorithm and developed QT based interface for gesture training.

*Undergraduate Researcher* Summer 2010  
CMU Biorobotics Lab, **Carnegie Mellon University**, Pittsburgh, PA

- Implemented an optical-flow based approach to extract egomotion information of the mobile robot. Worked under the supervision of Prof. Howie Choset

**PUBLICATIONS** Mahmut Demir, H. Isil Bozma. "**Video Summarization via Segments Summary Graphs.**" Workshop on the Video Summarization, International Conference on Computer Vision (ICCV), 2015

(**Best Paper Award - In Turkish**) Mahmut Demir, H. Isil Bozma. "**Yer Sezimleme ve Ozet Bolut Cizgeleri.**" Turkiye Robotbilim Konferansı (**TORK**), 2015

## SKILLS

*Languages: Turkish (Native), English (Fluent), Japanese (Intermediate)*

*Programming Languages: C, C++, Matlab, Python, Java*

*Programming Libraries: OpenCV, ROS, Android*

*Safety Critical Embedded Programming*

## AWARDS

2016, Total Oil Prize in start-up idea competition, VisCar - Vision based driver assistance system (ADAS)

2015, Best Paper award in National Robotics Conference, TORK

2015, Turkish Government Graduate Scholarship Awardee

2006, Ranked 6<sup>th</sup> out of 1.5 Million Students at 2006 University Entrance Exam

## EXTRA-CURRICULAR ACTIVITIES

Base-Istanbul Makerspace, *Co-Founder, Member*

Feb.2012 - Jan.2014

## REFERENCES

*Bogazici University:* Prof. Isil Bozma • bozma@boun.edu.tr

*Baykar Aerospace Company:* CTO, Selcuk Bayraktar • selcuk@baykarmakina.com

*Sabanci University:* Prof. Mustafa Unel • munel@sabanciuniv.edu

*Carnegie Mellon University:* Prof. Howie Choset • choset@ri.cmu.edu

*Waseda University:* Prof. Atsuo Takanishi • takanisi@waseda.jp