Mahmut Demir

Intelligent Systems Laboratory
Electrical & Electronics Department
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OBJECTIVE

I have a long standing passion for Robotics and Computer Vision with proven experience. My knowledge in the field relies not only on the academic studies conducted in several prominent robotics research laboratories but also on the professial experience of working in a R&D company which built the first Tactical UAV in Turkey as well as on the hands-on experience acquired through both individual and team projects completed in our makerspace of which I am the co-founder of. I am a Green Card holder and authorized to work in US.

EDUCATION

M.Sc. in Electrical Engineering,   2014 - Exp.2016
Bogazici University, Istanbul, TURKEY

(No degree) M.Sc. in Electrical Engineering,   Sep-2012 - Mar-2013
Sabanci University, Istanbul, TURKEY

Exchange Student,   2010 - 2011
Waseda University, Tokyo, JAPAN

B.Sc. in Electrical Engineering,   2006 - 2012
Bogazici University, Istanbul, TURKEY

PUBLICATIONS

(Submitted) Mahmut Demir, H. Isıl Bozma. **"Place Detection & Segments Summary Graphs."** International Conference on Intelligent Robots and Systems **(IROS)**, 2016

Mahmut Demir, H. Isıl 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. Isıl Bozma. **"Yer Sezimleme ve Ozet Bolut Cizgeleri."** Turkiye Robotbilim Konferansı **(TORK)**, 2015

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.

Undegraduate 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

WORK EXPERIENCE

Research & Teaching Assistant   Sep.2014 - Present
Bogazici University, Istanbul, TURKEY
- Master's thesis: "Semantic Place Detection and Recognition"
- T.A. for selected courses: RobotControl, Artificial Intelligence, Numerical tools for EE Students, Energy Conversion and Electric Machines

UAV Software Engineer   May.2013 - Aug.2014
Baykar Aerospace Company, Istanbul, TURKEY
- 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.
- 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.

Co-Founder   Feb.2012 - Jan.2014
Base-Istanbul Makerspace, Istanbul, TURKEY
- 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

Software Developer   Feb.2012 - Oct.2012
AveaLabs, Istanbul, TURKEY
- Developed an EKF based traffic estimation algorithm, generates a traffic report based on crowdsourced GPS data of the mobile phone users.
- Created "the SmartBox", a raspberry powered gadget, that connects internet and displays live feeds, e-mails and notifications.

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

2015, Best Paper award in National Robotics Conference, TORK
2015, Turkish Government Graduate Scholarship Awardee
2006, Ranked 6th 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