E N E S   S E N E L

Munich / Frankfurt am Main, Germany   www.enessenel.com   enes.senel@tum.de

EDUCATION

TECHNICAL UNIVERSITY OF MUNICH, **COMPUTER SCIENCE**, M.S.
2016 - ONGOING, MUNICH

DAAD Masters Scholarship
Research Interests: Computational Neuroscience, Medical Imaging and Robotics, Machine Learning

OZYEGIN UNIVERSITY, **COMPUTER SCIENCE**, B.S.
2012 - 2016, ISTANBUL

GPA: 3.82 / 4.00 (Faculty Ranking: 1st)

100% Tuition Scholarship & Academic Merit Stipend
Thesis: A Standalone Application for a 2D Ultrasound Guided Medical Robotic System [pdf]
Supervisors: Assoc. Prof. Dr. Erhan Oztop, Assist. Prof. Dr. Ozkan Bebek

RESEARCH EXPERIENCE

RESEARCH STUDENT, MAX PLANCK INSTITUTE FOR BRAIN RESEARCH
MAY 2018 - ONGOING, FRANKFURT AM MAIN, GERMANY

Advisor: Prof. Julijana Gjorgjieva [lab]

- Using supervised machine learning techniques to analyse activity dependent proteomic changes
- Working on domain adaptation and data integration methods to provide a general analysis pipeline that can be applied to datasets from various experimental approaches
- Developing a mathematical model that captures molecular changes during homeostasis

RESEARCH INTERN, UNIVERSITÄT OSNABRUCK
FEBRUARY 2016, OSNABRUCK, GERMANY

Advisor: Prof. Peter König [lab]

- Applied different graph clustering and iteration methods for brain parcellation task using DTI connectivity data
- Combined distance and connectivity information for better clustering of the brain

UNDERGRADUATE RESEARCH ASSISTANT, OZYEGIN UNIVERSITY
2014 - 2016, ISTANBUL

Advisor: Assist. Prof. Ozkan Bebek [lab]

- Developed a Medical Robotics System for Image Guided Needle Operations, funded by Scientific and Technological Research Council of Turkey
- Developed real-time high performance needle tip localisation and tracking algorithms
- Created an end-user software to be able to use the algorithms in real clinical environments

WORK EXPERIENCE AND INTERNSHIPS

HİWİ (STUDENT ASSISTANT), TECHNICAL UNIVERSITY OF MUNICH
DECEMBER 2017 - MARCH 2018, MUNICH

- Worked at the Computer Aided Medical Procedures & Augmented Reality Chair
- Implemented calibration methods for multi camera pose estimation data and conducted user studies to evaluate the quality different between different calibration approaches

SOFTWARE DEVELOPMENT INTERN, MEKANSAL ISLER (URBANSTAT)
SUMMER 2015, ISTANBUL

- Urbanstat is a startup based in Istanbul/Chicago, specialising in location based data applications
- Developed a geofencing application for iOS devices
- Implemented a hot spot analysis tool for geospatial data using PostGIS and Python
- The applications I developed required learning and applying some statistical methods

TEACHING ASSISTANT, GAME WORKSHOP AT OZYEGIN UNIVERSITY
JULY 2013 & JULY 2014, ISTANBUL

- Participated as a teaching assistant in the workshop which aims to teach high school students programming using Processing language and environment

PUBLICATIONS

- **Visual Needle Tip Tracking in 2D US Guided Robotic Interventions,** Mert Kaya, *Enes Senel,* Awais Ahmad, Ozkan Bebek, **Mechatronics,** Volume 57, 2019, Pages 129-139.

- **Visual Tracking of Multiple Moving Targets in 2D Ultrasound Guided Robotic Percutaneous Interventions,** Mert Kaya, *Enes Senel*, Awais Ahmad, Ozkan Bebek, In Proceedings of the **International Conference on Robotics and Automation (ICRA 2017)**, Singapore, May 29-June 3, 2017. [video]

- **Visual Tracking of Biopsy Needles in 2D Ultrasound Images**, Mert Kaya, *Enes Senel*, Awais Ahmad, Ozkan Bebek, In Proceedings of the **International Conference on Robotics and Automation (ICRA 2016)**, Stockholm, May 16-21, 2016. [video]

- **Real Time Needle Tip Localisation in 2D Ultrasound Images for Robotic Biopsies,** Mert Kaya, *Enes Senel*, Awais Ahmad, Orcun Orhan, Ozkan Bebek, In Proceedings of the 17th **International Conference on Advanced Robotics (ICAR 2015)**, Istanbul, July 27-31, 2015.

SKILLS

Programming	Other
Python, C++, Java	Qt, MATLAB, Git, SVN, OpenCV, OpenGL, OWL API, Jena, SciPy, NumPy, R
Familiar with: F#, PHP, Javascript, Swift	

SCHOLARSHIPS, EVENTS, AWARDS, CERTIFICATES

- Partial Scholarship for Interdisciplinary College 2017, Germany
- DAAD/TEV Masters Scholarship, 2016-Ongoing
- Ozyegin University 100% Tuition Scholarship & Merit Scholarship Stipend, 2012 - 2016
- TUBITAK Academic Research Scholarship, 2014 - 2016
- Ozyegin University Abroad Internship Scholarship, 2016
- Ismail Ari Computer Science and Engineering Summer School, Bogazici University, 2015