

T. METIN SEZGIN

Koç University
College of Engineering
Sarıyer, Istanbul, Turkey

+90 212 338-1540
mtsezgin@ku.edu.tr
portal.ku.edu.tr/~mtsezgin

RESEARCH INTERESTS

Artificial Intelligence, Explainable AI in Deep Learning, Machine Learning, Computer Vision, Anomaly Detection, Intelligent User Interfaces, Multimodal Interfaces.

EDUCATION

Massachusetts Institute of Technology, Cambridge MA

PhD in Electrical Engineering and Computer Science, May 2006 GPA: 5.0/5.0

Thesis Title: *Sketch Interpretation Using Multiscale Stochastic Models of Temporal Patterns*

Thesis Committee: *Prof. Randall Davis (advisor),
Prof. Leslie Pack Kaelbling,
Prof. Tomás Lozano-Pérez.*

Qualifier Committee: *Prof. Trevor Darrell,
Prof. Eric Demaine*

Minor Concentration: *Management in Engineering, Sloan School of Management*

Massachusetts Institute of Technology, Cambridge MA

Master of Science degree in Electrical Engineering and Computer Science, May 2001 GPA: 4.86/5.00

Thesis Advisor: *Prof. Randall Davis*

Thesis Title: *Feature Point Detection and Curve Approximation for Early Processing of Free-Hand Sketches*

Syracuse University, LC Smith College of Engineering and Computer Science, Syracuse NY

Bachelor of Science, summa cum laude with Honors in Computer Science May 99.

Ranked 1st in the College of Engineering. GPA: 3.99/4.00 – overall, 4.0/4.0 – core

Honors Thesis Title: *Logic Programming: A Dynamical Systems Approach*

Jamesville DeWitt High School, Syracuse, NY

Regents Diploma, May 95

PROFESSIONAL APPOINTMENTS & TITLES

Koç University, College of Engineering, Istanbul, Turkey

Associate Professor of Computer Engineering

05/16 – current

Yale University, Department of Computer Science, New Haven, CT

Visiting Fellow

09/16 – 09/17

Koç University, College of Engineering, Istanbul, Turkey

Assistant Professor of Computer Engineering

01/09 – 04/16

Higher Educational Council of Turkey

University Docent, Computer and Information Sciences

27/01/14

Harvard University, School of Engineering and Applied Sciences, Cambridge MA

Visiting Researcher, Intelligent Interactive Systems Group (appointment via Harvard CMES)

07/10 – 09/10

University of Cambridge, Computer Laboratory, Cambridge UK

Research Associate, Empathic Avatars Project

08/06 – 01/09

HONORS AND AWARDS

National Research Council, Sponsored Research Success Stories Showcase (2019)

The Science Academy, Young Scientist Award (2018)

Honorable Mention Award, Top 5%, ACM CHI 2017 (2017)

Bronze Medal, Haptic Stylus Patent, International Inventions Fair (2016)

Research and Development Directorate Patent Inventor Plaque, Koç University (2015)

The Scientist of the Year Award 2014, Bilim Kahramanlari Dernegi (2014)

Outstanding Young Scientists Award, Turkish Academy of Sciences (2013)

Turk Telekom R&D Technology Transfer Appreciation Plaque (2012)

Turk Telekom Research Collaboration Award (2011)

Harvard – Koç Visiting Scholar (2010)

KOLT Learning and Innovation Grant (2010)

Research Assistantship, Massachusetts Institute of Technology (1999-2006)

Earl H. Devoe Prize for Outstanding Undergraduate Research, Syracuse University (1999)

Warren Semon Prize for Outstanding Achievement in Computer Science, Syracuse University (1999)

Syracuse University 1998-1999 Remembrance Scholar

Second place in the Martin and Phyllis Berman Competition for innovative Computer Programs (1998)

Third Place in the Martin and Phyllis Berman Competition for innovative Computer Programs (1997)

Member of NY β chapter of Tau Beta Pi Honor Society at Syracuse University

Member of Phi Kappa Phi Honor Society at Syracuse University

Honorary Scholarship from Syracuse University covering full undergraduate tuition (8 semesters)

Enrollment in the Upper Division Honors Program at Syracuse University.

L.C. Smith College of Eng. and Computer Science PRIDE 4.0 Club Certificate for Civic and Academic Excellence.

Dean's List (All semesters at Syracuse University)

ACADEMIC SYNOPSIS

Cumulative citations: 2063

Citations per author: 630

G-Index: 42

i10-index: 36

H-Index: 22

STUDENT SUPERVISION & POSTDOCS

Postdoctoral Research Associates

Yusuf Sahillioğlu Project Title: Current position:	IUI Lab, Koç University, Postdoctoral Research Associate iMotion, Intelligent Multimodal Motion Retrieval Assistant Professor, Middle East Technical University, Turkey	01/14 – 10/14
Neşe Alyüz Çivitçi Project Title: Current position:	IUI Lab, Koç University, Postdoctoral Research Associate Formative Affective Interfaces Intel Labs, Seattle, US	11/13 – 01/15
Başak Alper Project Title: Current position:	IUI Lab, Koç University, Postdoctoral Research Associate Intelligent Interfaces for eLearning NASA, Jet Propulsion Laboratory	09/13 – 09/14

PhD Supervision – Alumni

Ezgi Senem Emgin Dissertation Title:	Koç University, PhD in Computational Science and Engineering Gesture Aware Haptic Displays (co-supervised)	01/12 – 01/20
Çağla Çiğ Dissertation Title:	Koç University, PhD in Computer Engineering Gaze-Aware Predictive Multimodal Interfaces	09/11 – 02/17
Çağlar Tırkaz Dissertation Title:	Sabancı University, PhD in Electrical and Computer Engineering Sketch and Attribute Based Query Interfaces (co-supervised) Thesis work has received the Dr. Gürsel Sönmez Research Award, Only three awarded in the College of Engineering & Natural Sciences	09/09 – 05/15
Ayşe Küçükylmaz Dissertation Title:	Koç University, PhD in Computational Sciences and Engineering Haptic Role Allocation and Intention Negotiation in Human-Robot Collaboration (co-supervised) Thesis work received the Koç University Academic Excellence Award, Only one awarded in the Graduate School of Engineering & Sciences	09/08 – 06/13
Sinan Tümen Dissertation Title:	Koç University, PhD in Electrical and Computer Engineering Learning Stroke Fragmentation and Sketch Segmentation	09/09 – 09/15

PhD Supervision – Ongoing

Çağlayan Şerbetçi Dissertation Title:	Koç University, PhD. in Computer Engineering Smart eLearning Interfaces	09/20 – current
Alpay Sabuncuoğlu Dissertation Title:	Koç University, PhD in Computer Engineering Accessible eLearning Interfaces	08/18 – current
Bekir Türker Dissertation Title:	Koç University, PhD in Computer Engineering Affect Burst Detection and Recognition (co-supervised)	09/13 – current

MS Supervision – Alumni

Alican Akman Dissertation Title:	Koç University, M.Sc. in Computer Engineering Deep Models for Generation of 3D Human Models and Animations from Sketches	08/17 – 08/20
Zana Buçinca Dissertation Title:	Koç University, M.Sc. in Computer Engineering Incorporating Affect into Dialog Generation	08/16 – 05/19

<i>Ozan Can Altıok</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Multimodal Interfaces for Motion Retrieval</i>	<i>08/15 – 01/19</i>
<i>Kurmanbek Kaiyrbekov</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Stroke-based Sketched Symbol Segmentation And Generation (Deep Learning)</i>	<i>08/15 – 08/18</i>
<i>Kemal Tuğrul</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Sketch Recognition with Few Examples</i>	<i>09/13 – 08/16</i>
<i>Şerike Çakmak</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Clustering Free-Form Sketch Scenes through Perceptual Similarity</i>	<i>09/13 – 08/16</i>
<i>Cansu Şen</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Semi-Supervised Multimodal Intelligent Content Translator</i>	<i>09/13 – 09/16</i>
<i>Shabbir Marzban</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Affect Burst Detection and Recognition (co-supervised)</i>	<i>09/13 – 08/15</i>
<i>Banuçiçek Gürcüoğlu</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Learning People's Perception of Messiness for Hand-drawn Sketches</i>	<i>09/11 – 09/14</i>
<i>Atakan Arasan</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Haptic Stylus with Inertial and Vibro Tactile Feedback (co-supervised)</i>	<i>09/11 – 05/14</i>
<i>Özem Kalay</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Detection of Recognition Errors from Eye Gaze Behavior in Sketch Recognition Interfaces</i>	<i>09/11 – 08/14</i>
<i>Burak Özen</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>A Simple Resource-Aware Approach to Sketch Recognition via Style Identification</i>	<i>09/11 – 06/13</i>
<i>Erelcan Yanık</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Active Learning for Sketch Recognition</i>	<i>09/11 – 06/13</i>
<i>Ö. Özgür Öğüz</i> Dissertation Title:	<i>Koç University, M.Sc. in Electrical and Computer Engineering</i> <i>A Negotiation Model for Affective Visuo-Haptic Communication Between a Human Operator and a Machine (co-supervised)</i>	<i>09/08 – 06/10</i>
MS Supervision – Ongoing		
<i>Burak Hayati Muslu</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Backchannel Feedback Modeling for Human-Robot Interaction</i>	<i>09/20 – current</i>
<i>Baris Batuhan Topal</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Models of Engagement and Interaction for Groups of Robots</i>	<i>08/20 – current</i>
<i>Gokce Iymen</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Generative Models for Audio-Based Formative Feedback</i>	<i>08/20 – current</i>
<i>Alara Zindancıoğlu</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>Interactive Formative Feedback Systems</i>	<i>08/19 – current</i>
<i>Ezgi Dede</i> Dissertation Title:	<i>Koç University, M.Sc. in Computer Engineering</i> <i>SketchNet</i>	<i>08/19 – current</i>

Undergraduate Supervision

<i>Ahmet Bađlan</i> Project Title:	<i>Koç University, Summer Research Student, Bođaziçi University</i> <i>Sketch Auto-Completion by Grouping Classes</i>	<i>07/16 – 09/16</i>
<i>Amirhossein Sayyafan</i> Project Title:	<i>Koç University, Summer Research Student, Sharif U. of Technology</i> <i>Demonstration of Sketch Auto-Completion in Real Life</i>	<i>07/16 – 09/16</i>
<i>Arda İçmez</i> Project Title:	<i>Koç University, Summer Research Student, Galatasaray University</i> <i>Acceleration of Sketch Auto-Completion using Parallel Computing</i>	<i>07/16 – 09/16</i>
<i>Elif Yađmur Eyrice</i> Project Title:	<i>Koç University, Summer Research Student, Bilkent University</i> <i>Demonstration of Sketch Auto-Completion in Real Life</i>	<i>07/16 – 09/16</i>
<i>Semih Günel</i> Project Title:	<i>Koç University, Summer Research Student, Bilkent University</i> <i>Algorithm Optimization in Sketch Auto-Completion</i>	<i>07/16 – 09/16</i>
<i>Tuđrulcan Elmas</i> Project Title:	<i>Koç University, Summer Research Student, Bilkent University</i> <i>Using Sketch Auto-Completion in Video Retrieval Engines</i>	<i>07/16 – 09/16</i>
<i>Zahra Montazeri</i> Project Title:	<i>Koç University, Summer Research Student, Sharif U. of Technology</i> <i>Visualization of Big Data for e-Learning</i>	<i>06/14 – 08/14</i>
<i>Sardar Bonabi</i> Project Title:	<i>Koç University, Summer Research Student, Sharif U. of Technology</i> <i>Efficient Annotation for Semi-Automated Content Translation</i>	<i>06/14 – 08/14</i>
<i>Kemal Tuđrul</i> Project Title:	<i>Koç University, Summer Research Student, IEU</i> <i>Effective Data Collection Strategies for Sketch-Based Interfaces</i>	<i>06/12 – 08/12</i>
<i>Anıl Ulutürk</i> Project Title:	<i>Koç University, Summer Research Student, METU</i> <i>A Multimodal Question Authoring Tool for Interactive Education</i>	<i>06/12 – 08/12</i>
<i>Zeynep Mavuş</i> Project Title:	<i>Koç University, Summer Research Student, METU</i> <i>Pen-Based Intelligent Interactive Geometry Tutor</i>	<i>06/12 – 08/12</i>
<i>Mustafa Tülü</i> Project Title:	<i>Koç University, Summer Research Student, Gaziantep U.</i> <i>Fixtures for Ambient Traffic-Density Signage</i>	<i>06/12 – 08/12</i>
<i>Buđra Akyıldız</i> Project Title:	<i>Koç University, Summer Research Student, Bilkent University</i> <i>Sketch-Based Retrieval</i>	<i>06/11 – 08/11</i>
<i>Sasa Kostadinovic</i> Project Title:	<i>Koç University, IEASTE Exchange Student, University of Nis</i> <i>Web-Services for Sketch Recognition</i>	<i>06/11 – 08/11</i>
<i>Tuđsad Karaduman</i> Project Title:	<i>Koç University, Summer Research Student</i> <i>Interactive Animation of Graph Algorithms</i>	<i>02/11 – 06/11</i>
<i>Furkan Bayraktar</i> Project Title:	<i>Koç University, Undergraduate Research Student</i> <i>Pen-Based Interfaces for Virtual Physics</i>	<i>06/11 – 06/12</i>
<i>Ozan Okumuşođlu</i> Project Title:	<i>Koç University, Undergraduate Research Student</i> <i>Pen-Based Interfaces for Virtual Physics</i>	<i>06/11 – 06/12</i>
<i>Aral Can Kaymaz</i> Project Title:	<i>Koç University, Undergraduate Research Student</i> <i>Multimodal Storyboarding for Virtual Cinematography</i>	<i>06/11 – 06/12</i>
<i>Atakan Arasan</i> Project Title:	<i>Koç University, Summer Research Student</i> <i>Vibro-Tactile Stylus</i>	<i>06/10 – 09/10</i>

<i>Emrah Şamdan</i> <i>Project Title:</i>	<i>Koç University, Summer Research Student</i> <i>Robust Primitive Extraction for Free-Hand Strokes</i>	<i>06/10 – 09/10</i>
<i>İsmail Ulutürk</i> <i>Project Title:</i>	<i>Koç University, Summer Research Student</i> <i>2D Sketch Recognition</i>	<i>06/10 – 09/10</i>
<i>Relja Arandjelovic</i> <i>Project Title:</i>	<i>University of Cambridge, Summer UROP</i> <i>Information Fusion for Sketch Recognition</i>	<i>06/08 – 08/08</i>
<i>Yuan Cao Zhang</i> <i>Project Title:</i>	<i>University of Cambridge, Summer UROP</i> <i>Web-based Emotion Labeling Game</i>	<i>06/08 – 09/08</i>
<i>Alexander Blessing</i> <i>Project Title:</i>	<i>University of Cambridge, Summer UROP</i> <i>A Multimodal Scenario Editor for Driving Simulators</i>	<i>06/08 – 09/08</i>
<i>Dingli Zuo</i> <i>Project Title:</i>	<i>University of Cambridge, Summer UROP</i> <i>An Efficient Framework for Video Annotation</i>	<i>06/07 – 09/07</i>

Part II Supervision (University of Cambridge)

<i>Andy Prichard</i> <i>Project Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>Polygonal Mesh Reconstruction from Medical Images</i>	<i>09/08 – 05/09</i>
<i>Devan Mahadeshwar</i> <i>Thesis Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>Laser Pointer Interaction with Projected Computer Displays</i>	<i>09/07 – 05/08</i>
<i>Alison Shaw</i> <i>Thesis Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>Modeling Using Dynamics</i>	<i>09/07 – 05/08</i>
<i>Phillip M. Bielby</i> <i>Thesis Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>Face-tracking via Vicon Motion Capture System & Multiple Cameras</i>	<i>09/06 – 05/07</i>
<i>Sergei Trofimov</i> <i>Thesis Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>A Multimodal Interface for Creating Graphical Models</i>	<i>09/06 – 05/07</i>
<i>Gareth P. Bailey</i> <i>Thesis Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>Directly Controlled Animation Using the Vicon System</i>	<i>09/06 – 05/07</i>
<i>Rebecca Mahoney</i> <i>Thesis Title:</i>	<i>University of Cambridge, Part II Project, Undergraduate Thesis</i> <i>An Online Test Environment: Evaluating the Use of Affective Inference in the Thinking Skills Assessment</i>	<i>09/06 – 05/07</i>

SCHOLARLY WORK

Book Chapters

1. **T. M. Sezgin**, *Online Interpretation of Sketched Drawings*, Book chapter in *Sketch Based Interfaces and Modelling for Product Design*, River Publishing, Book Chapter. (2020).
2. **T. M. Sezgin**, *Explainable Artificial Intelligence*, Contributed Article, *Sofitech Technology Trend Report*. (2020)
3. Küçükylmaz, S. O. Öğüz, **T. M. Sezgin**, Ç. Başdoğan. **Improving Human-computer Cooperation through Haptic Role Exchange and Negotiation**, Immersive Multimodal Interactive Presence: Person-Object, Person-Object-Person and Person-Person Scenarios, *Springer Series on Touch and Haptic Systems*, Book Chapter. (2012).
4. H.A. Blair, F. Dushin, D.W. Jakel, A.J. Rivera and **T. M. Sezgin**. **Continuous Models of Computation for Logic Programs**. Book chapter in *The Logic Programming Paradigm: A 25-Year Perspective*, Springer Series in Artificial Intelligence, Book Chapter. (1999).

Edited Journal Issues

1. Biswas, P., Orero, P., **Sezgin, T.M.**, *Special Issue on Intelligent Interaction Design*, *AIEDAM Special Issue*, Volume 33, Number 4, Guest Editor, (2020).
2. **T. M. Sezgin**, *Computers and Graphics*, *Special Section on SBIM, CAe, NPAR – Expressive 2015*, Volume 59, October 2016, Guest Editor, (2016).
3. T. Isenberg, P. Asente, J. Collomosse, **T. M. Sezgin**, *Computers and Graphics*, *Computational Aesthetics, Non-Photorealistic Animation and Rendering, and Sketch Based Interfaces and Modeling*, Special Issue, October 2012, Guest Editor, (2012).

Refereed Publications

1. A. Sabuncuoğlu, **M. T. Sezgin**, *Kart-ON: Affordable Early Programming Education with Shared Smartphones and Easy-to-Find Materials*, IUI '20: Proceedings of the 25th International Conference on Intelligent User Interfaces Companion. (2020).
2. A. Akman, Y. Sahillioğlu, **T. M. Sezgin**, *Generation of 3D Human Models and Animations Using Simple Sketches*, *Graphics Interfaces*, (2020).
3. B. Sadia, S. E. Emgin, **T. M. Sezgin** and Ç. Başdoğan, *Data-Driven Vibrotactile Rendering of Digital Buttons on Touchscreens*, *International Journal of Human-Computer Studies*, Vol. 135 (2020).
4. A. Bonnici, A. Akman, G. Calleja, K. P. Camilleri, P. Fehling, A. Ferreira, F. Hermuth, J. H. Israel, T. Landwehr, J. Liu, N. M. J. Padfield, **T. M. Sezgin**, and P. L. Rosin, *Sketch-based interaction and modeling: where do we stand?*, *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, pp. 1–19, (2019)
5. K. Kaiyrbekov, **T. M. Sezgin**, *Stroke-based sketched symbol reconstruction and segmentation*, *IEEE Computer Graphics and Applications*, Accepted for Publication, (2019).
6. N. Alyuz, **T. M. Sezgin**, *Interpretable Machine Learning for Generating Semantically Meaningful Formative Feedback*, *CVPR, IEEE Conference on Computer Vision and Pattern Recognition, Workshop on Explainable AI*, Long Beach, CA (2019)
7. N. Hussain, E. Erzin, **T. M. Sezgin**, Y. Yemez, *Speech Driven Backchannel Generation using Deep Q-Network for Enhancing Engagement in Human-Robot Interaction*, *INTERSPEECH: Annual Conference of the International Speech Communication Association*, Graz, Austria, (2019).

8. S. E. Emgin, A. Aghakhani, **T. M. Sezgin**, C. Basdogan, **Haptable: An Interactive Tabletop Providing Online Haptic Feedback for Touch Gestures**, *IEEE Transactions on Visualization and Computer Graphics*, Vol: 25, Issue: 9, pp. 2749-2762, (2019).
9. N. Hussain, E. Erzin, **T. M. Sezgin**, Y. Yemez, **Batch Recurrent Q-Learning for Backchannel Generation Towards Engaging Agents**” 8th International Conference on Affective Computing and Intelligent Interaction (ACII), (2019).
10. B. Türker, E. Erzin, Y. Yemez, and **T. M. Sezgin**, **Audio-Visual Prediction of Head-Nod and Turn-Taking Events in Dyadic Interactions**, *Proc. Interspeech 2018*, Hyderabad, India (2018).
11. L. Devillers and S. Rosset and G. Dubuisson Duplessis and L. Bechade and Y. Yemez and B. B. Turker and **T. M. Sezgin** and E. Erzin and K. El Haddad and S. Dupont and P. Deleglise and Y. Esteve and C. Lailler and E. Gilmartin and N. Campbell, **Multifaceted Engagement in Social Interaction with a Machine: The JOKER Project**, 2018 13th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2018), Xi'an, China, pp. 697-701, (2018).
12. E. Marchi, B. Schuller, A. Baird, S. Baron-Cohen, A. Lassalle, H. O’Rielly, D. Pigat, P. Robinson, I. Davies, T. Baltrusaitis, O. Golan, S. Fridenson-Hayo, S. Tal, S. Newman, N. Meir-Goren, A. Camurri, S. Piana, S. Bolte, **T. M. Sezgin**, N. Alyuz, A. Rynkiewicz, A. Baranger, **The ASC-Inclusion Perceptual Serious Gaming Platform for Autistic Children**, *IEEE Transactions on Games*, Forthcoming, (2018).
13. Ç. Çığ and **T. M. Sezgin**, **Gaze-based predictive user interfaces: Visualizing user intentions in the presence of uncertainty**, *International Journal of Human-Computer Studies*, Vol: 111, pp. 78-91, (2018).
14. Kebude, D., Eteke, C., **Sezgin, TM**, Akgun, B., **Communicative Cues for Reach-to-Grasp Motions: From Humans to Robots**, *International Conference on Autonomous Agents and Multiagent Systems*, July 10-15, Stockholm, Sweden, (2018).
15. B. Alper, N. Riche, F. Chevalier, J. Boy, **T. M. Sezgin**, **Visualization Literacy at Elementary School**. In *Proceedings of ACM CHI 2017, Conference on Human Factors in Computing Systems*, Denver CO, May 6-11, (2017). **CHI 2017 Honorable Mention Award**
16. B. B. Türker, Y. Yemez, **T. M. Sezgin**, E. Erzin, **Audio-Facial Laughter Detection in Naturalistic Dyadic Conversations**, *IEEE Transactions on Affective Computing*, Forthcoming, (2017).
17. K. T. Yeşilbek, **T. M. Sezgin**, **Sketch Recognition with Few Examples**, *Computers and Graphics*, Forthcoming, (2017).
18. B. Alper, N. H. Riche, F. Chevalier, J. Boy and **T. M. Sezgin**, **Visualization Literacy at Elementary School**, *Conference on Pen and Touch Technology in Education*, Evanston, IL, USA, Oct 12-14, (2017).
19. Y. Sahillioglu, **T. M. Sezgin**, **Sketch-based Articulated 3D Shape Retrieval**, *IEEE Computer Graphics and Applications*, Forthcoming, (2017).
20. Rudakova, V., Lin, N., Trayan, N., Sezgin, T.M., Dorsey, J., Rushmeier, H., **CHER-ish: A sketch- and image-based system for 3D representation and documentation of cultural heritage sites**, *Proceedings of the Eurographics Symposium on Graphics and Cultural Heritage*, Forthcoming, Graz, Austria, September 27, (2017).
21. O. C. Altıok, T. M. Sezgin, **Characterizing User Behavior for Speech and Sketch-based Video Retrieval Interfaces**, *Proceedings of Expressive 2017, Posters, Artworks, and Bridging Papers, the Eurographics Association*, Los Angeles, CA, USA, July 29-30, (2017).
22. Kebude, D., **Sezgin, TM**, Akgun, B., **Exploring Communicative Arm Motion for Human-Robot Interaction**, *Robotics: Science and Systems, Workshop on Mathematical Models, Algorithms, and Human-Robot Interaction*, July 15, Boston, MA, (2017)

23. B. B. Türker, Z. Buçinca, E. Erzin, Y. Yemez, **T. M. Sezgin**, **Engagement and User Experience with a Laughter Responsive Social Robot**, *Interspeech 2017, Proceedings of the Annual Conference of the International Speech Communication Association, Stockholm, Sweden, Aug 20-24, Forthcoming (2017)*
24. W. Shi, Z. Wang, **T. M. Sezgin**, J. Dorsey, and H. Rushmeier, **Material Design in Augmented Reality with In-Situ Visual Feedback**, *Proceedings of the Eurographics Symposium on Rendering, Forthcoming, Helsinki, Finland, June 19-21, (2017).*
25. O. Altıok, K. T. Yeşilbek, **T. M. Sezgin**, **What Auto Completion Tells Us About Sketch Recognition**. In *Proceedings of Expressive 2016, Posters, Artworks, and Bridging Papers, the Eurographics Association, Lisbon, Portugal, May 7-9, (2016).*
26. Ş. Çakmak, **T. M. Sezgin**, **Building a Gold Standard for Perceptual Sketch Similarity** . In *Proceedings of Expressive 2016, Posters, Artworks, and Bridging Papers, the Eurographics Association, Lisbon, Portugal, May 7-9, (2016).*
27. Ç. Çığ, **T. M. Sezgin**, **Gaze-Based Biometric Authentication: Hand-Eye Coordination Patterns as a Biometric Trait**. In *Proceedings of Expressive 2016, Posters, Artworks, and Bridging Papers, the Eurographics Association, Lisbon, Portugal, May 7-9, (2016).*
28. C. Tanase, I. Giangreco, L. Rossetto, H. Schuldt, O. Seddati, S. Dupont, O. C. Altıok, **T. M. Sezgin**, **Semantic Sketch-Based Video Retrieval with Autocompletion**, *Proceedings of the 21st International Conference on Intelligent User Interfaces (IUI 2016), ACM, March 7–10, 2016, Sonoma, CA, USA, (2016).*
29. L. Rossetto, I. Giangreco, S. Heller, C. Tanase, H. Schuldt, O. Seddati, S. Dupont, **T. M. Sezgin**, O. C. Altıok, Y. Sahillioglu, **IMOTION - Searching for Video Sequences Using Multi-Shot Sketch Queries**, *Proceedings of the 22nd International Conference on MultiMedia Modeling, Miami, Jan 4-6, (2016).*
30. L. Rossetto, I. Giangreco, C. Tanase, H. Schuldt, O. Seddati, S. Dupont, **T. M. Sezgin**, Y. Sahillioglu, **iAutoMotion - an Autonomous Content-based Video Retrieval Engine**, *Proceedings of the 22nd International Conference on MultiMedia Modeling, Miami, Jan 4-6, (2016).*
31. Arasan, Ç. Basdogan, and **T. M. Sezgin**. **HaptiStylus: A Novel Stylus Capable of Displaying Movement and Rotational Torque Effects**. *IEEE Computer Graphics and Applications*, vol. 36, no. 1, pp. 30-41, Jan.-Feb. 2016, (2016).
32. E. Yanık, **T. M. Sezgin**, **Active learning for sketch recognition**. *Computers & Graphics*, Vol. 52, Issue C, Nov 2015, pp. 93-105, (2015).
33. L. Devillers, S. Rosset, G. Dubuisson Duplessis, M. A. Sehili, L. Béchade, A. Delaborde, C. Gossart, V. Letard, F. Yang, Y. Yemez, B. B. Türker, **M. Sezgin**, K. El Haddad, S. Dupont, D. Luzzati, Y. Estève, E. Gilmartin, N. Campbell, **Multimodal Data Collection of Human-Robot Humorous Interactions in the JOKER Project**, *Proceedings of the 6th International Conference on Affective Computing and Intelligent Interaction, Xi'an, China, September 21-24, (2015).*
34. Ç. Tırkaz, J. Eisenstein, B. Yanıkoğlu, **T. M. Sezgin**. **Identifying Visual Attributes for Object Recognition from Text and Taxonomy**. *Computer Vision and Image Understanding*, Volume 137, August 2015, pp. 12-23, (2015).
35. C. E. Madan, A. Küçükylmaz, **T. M. Sezgin**, and Ç. Basdogan. **Recognition of Haptic Interaction Patterns in Dyadic Joint Object Manipulation**. *IEEE Transactions on Haptics*, vol. 8, no. 1, pp. 54-66, (2015).
36. L. Rossetto, I. Giangreco, H. Schuldt, S. Dupont, O. Seddati, **T. M. Sezgin**, Y. Sahillioglu, **IMOTION: A Content-based Video Retrieval Engine**. *Proceedings of the 21st International Conference on MultiMedia Modeling, Sydney, Jan 5-7, (2015).*
37. Ç. Çığ, **T. M. Sezgin**, **Real-time activity prediction: a gaze-based approach for early recognition of pen-based interaction tasks**. In *Proceedings of the workshop on Sketch-Based Interfaces and Modeling (SBIM '15). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 59-65, (2015).*

38. K. T. Yesilbek, C. Sen, S. Cakmak, and T. M. Sezgin, **SVM-based sketch recognition: which hyperparameter interval to try?**. In *Proceedings of the workshop on Sketch-Based Interfaces and Modeling (SBIM '15)*. Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 117-121, (2015).
39. B. Schuller, E. Marchi, S. Baron-Cohen, A. Lassalle, H. O'Reilly, D. Pigat, P. Robinson, I. Davies, T. Baltrusaitis, M. Mahmoud, O. Golan, S. Fridenson, S. Tal, S. Newman, N. Meir, R. Shillo, A. Camurri, S. P., A. Staglianò, S. Bölte, D. Lundqvist, S. Berggren, A. Baranger, N. Sullings, T. M. Sezgin, N. Alyuz, A. Rynkiewicz, K. Ptaszek, K. Ligmann, **Recent developments and results of ASC-Inclusion: An Integrated Internet-Based Environment for Social Inclusion of Children with Autism Spectrum Conditions**, *Proc. 3rd International Workshop on Digital Games for Empowerment and Inclusion (IDGEI 2015) held in conjunction with the 20th International Conference on Intelligent User Interfaces (IUI 2015)*, ACM, Atlanta, US, 29.03-01.04.2015.
40. Ç. Çığ, T. M. Sezgin, **Gaze-Based Virtual Task Predictor**. *Proceedings of International Conference on Multimodal Interfaces, Workshop Eye Gaze in Intelligent Human Machine Interaction: Eye-Gaze and Multimodality*, Istanbul, Turkey, November 12-16, (2014).
41. Ç. Çığ, T. M. Sezgin, **Gaze-Based Prediction of Pen-Based Virtual Interaction Tasks**. *International Journal of Human-Computer Studies*, Volume 73, Pages 91–106, (2014).
42. F. Sezgin, T. M. Sezgin, **Finding the Best Portable Congruential Random Number Generators**. *Computer Physics Communications*, Volume 184, Issue 8, p. 1889-1897, (2013).
43. Arasan, C. Başdoğan, T. M. Sezgin, **Haptic Stylus with Inertial and Vibro-Tactile Feedback**. *Proceedings of World Haptics Conference*, (2013).
44. R. S. Tümen, T. M. Sezgin, **DPFrag: A Trainable Stroke Fragmentation Framework based on Dynamic Programming**. *IEEE Computer Graphics and Applications*, Sept.-Oct. 2013, Vol. 33 no. 5), pp. 59-67, (2013).
45. Küçükylmaz, T. M. Sezgin, Ç. Başdoğan, **Intention Recognition for Dynamic Role Exchange in Haptic Collaboration**. *IEEE Transactions on Haptics*, vol. 6, no. 1, pp. 58-68, (2013).
46. Mörtl, M. Lawitzky, A. Küçükylmaz, T. M. Sezgin, Ç. Başdoğan, S. Hirche, **The Role of Roles: Physical Cooperation between Humans and Robots**. *International Journal of Robotics Research*, November 2012; Vol. 31, No. 13, (2012).
47. Ç. Tırkaz, B. Yanıkoğlu, T. M. Sezgin, **Memory Conscious Sketched Symbol Recognition**. *21st International Conference on Pattern Recognition*, Tsukuba Science City, Japan, November 11-15, (2012).
48. S. Ö. Ögüz, A. Küçükylmaz, T. M. Sezgin, Ç. Başdoğan, **Supporting Negotiation Behavior in Haptics-Enabled Human-Computer Interfaces**. *IEEE Transactions on Haptics*, Vol.: 5, Issue: 3, Pages: 274-284, 3rd Quarter., (2012).
49. T. Isenberg, P. Asente, J. Collomosse, T. M. Sezgin, **Special section on the 2011 joint symposium on computational aesthetics (CAe), non-photorealistic animation and rendering (NPAR), and sketch-based interfaces and modeling (SBIM)**. *Computers & Graphics*, Volume 36, Issue 6, Pages A3–A5, October 2012.
50. Ç. Tırkaz, B. Yanıkoğlu, T. M. Sezgin, **Sketched Symbol Recognition with Auto Completion**. *Pattern Recognition*, vol 45, issue 11, pp 3926-3937 (2012).
51. Küçükylmaz, T. M. Sezgin, Ç. Başdoğan, **Physical Communication of Intent: A Haptic Negotiation Framework for Human-Robot Interaction**. *IEEE HRI: Workshop on Advances in Tactile Sensing and Touch based Human-Robot Interaction*, Boston, MA, March 5, (2012).
52. Ç. Tırkaz, B. Yanıkoğlu, T. M. Sezgin, **Sketched Symbol Recognition with Few Examples Using Particle Filtering**. *ACM Symposium on Sketch Based Interfaces and Modeling*, Vancouver, Canada, August 5-7, (2011).
53. Kucukylmaz, T. M. Sezgin, C. Basdogan, **Conveying Intentions through Haptics in Human-Computer Collaboration**. *IEEE World Haptics Conference*, Istanbul, Turkey, June 22-24, (2011).

54. R. Arandjelovic, **T. M. Sezgin**, **Sketch recognition by fusion of temporal and image-based features**. *Pattern Recognition*, vol: 44, issue: 6, pp 1225-1234, (2011).
55. S. Afzal, **T. M. Sezgin**, P. Robinson, **Decoding Emotions from Facial Animations**. *ACM/SSPNET 2nd International Symposium On Facial Analysis And Animation*, Edinburgh, United Kingdom, October 21, (2010).
56. Y. Gao, Q. Zhao, A. Hao, **T. M. Sezgin**, N. A. Dodgson, **Automatic Construction of 3D Animatable Facial Avatars**. *Computer Animation and Virtual Worlds*, Vol:21, Issue 3-4, pp 343-354, (2010).
57. R. S. Tumen, M. E. Acer, **T.M. Sezgin**, **Feature Extraction and Classifier Combination for Image-based Sketch Recognition**. *ACM Symposium on Sketch Based Interfaces and Modeling*, Annecy, France, June 7-10, (2010).
58. S. O. Oguz, A. Kucukyilmaz, **M. T. Sezgin**, C. Basdogan, **Haptic Negotiation and Role Exchange for Collaboration in Virtual Environments**. *IEEE Haptics Symposium*, Waltham, Massachusetts, USA, March 25-26, (2010).
59. **T. M. Sezgin**, I. Davies, P. Robinson, **Multimodal Inference for Driver-vehicle Interaction**. *International Conference on Multimodal Interfaces*, Cambridge, MA, November 2-6, (2009).
60. S. Afzal, **T. M. Sezgin**, Y. Gao, P. Robinson, **Perception of Emotional Expressions through Facial Feature Points**. *IEEE International Conference on Affective Computing and Intelligent Interaction*, Amsterdam, Netherlands, September 10-11, (2009).
61. Y. Gao, **T. M. Sezgin**, N. Dodgson., **Automatic Construction of 3D Animatable Facial Models**. *International Conference on Computer Animation and Social Agents*, Amsterdam, Netherlands, June 17-19, (2009).
62. **T. M. Sezgin**, I. Davies, P. Robinson, **Multimodal Inference for Driver-Vehicle Interaction**. *Workshop on Multimodal Interfaces for Automotive Applications*, *International Conference on Intelligent User Interfaces*, Sanibel, Florida, USA, February (2009).
63. Blessing, **T. M. Sezgin**, R. Arandjelovic, P. Robinson, **A Multimodal Interface for Road Design**. *Workshop on Sketch Recognition*, *International Conf. on Intelligent User Interfaces*, Sanibel, FL, USA, Feb. 8, (2009).
64. **T. M. Sezgin** and R. Davis, **Sketch Recognition in Interspersed Drawings Using Time-Based Graphical Models**. *Computers & Graphics Journal*, Volume 32 , Issue 5, pp. 500-510 (2008).
65. M. Altinel, E. Arpalı, **T. M. Sezgin**, F. Sezgin, F. Gönenç, A. Yazıcıoğlu, **A New Logistic Regression Based Nomogram Developed For Predicting Prostate Biopsy Outcomes in The Turkish Population**. *20th Congress of the Turkish Urology Association*, Antalya, Turkey, November 1-6 (2008).
66. P. Biswas, **T. M. Sezgin** and P. Robinson, **Perception Model for People with Visual Impairments**. *Proc. of the 10th International Conf. on Visual Information Systems (LNCS 5188)*, Salerno, Italy, September 11-12, (2008).
67. **T. M. Sezgin**, T. Stahovich, and R. Davis. **Sketch Based Interfaces: Early Processing for Sketch Understanding**. In *ACM SIGGRAPH 2007 courses (SIGGRAPH '07)*. ACM, New York, NY, USA, Article 37 (2007).
68. **T. M. Sezgin** and P. Robinson, **Affective Video Data Collection Using an Automobile Simulator**. *Second International Conf. on Affective Computing and Intelligent Interaction*, Lisbon, Portugal, September 12-14, (2007).
69. X Pan, M Gillies, **T. M. Sezgin**, C. Loscos, **Expressing Complex Mental States Through Facial Expressions**. *2nd International Conf. on Affective Computing and Intelligent Interaction*, Lisbon, Portugal, Sept. 12-14, (2007).

70. **T. M. Sezgin** and R. Davis. **Temporal Sketch Recognition in Interspersed Drawings.** *Fourth Eurographics Workshop on Sketch-Based Interfaces and Modeling, University of California, Riverside, CA, August 2-3, (2007).*
71. **T. M. Sezgin** and R. Davis. **Sketch Interpretation Using Multiscale Models of Temporal Patterns.** *IEEE Computer Graphics & Applications Journal, Volume: 27, Issue: 1, pp. 28-37. (2007).*
72. H. Dibeklioglu, **T. M. Sezgin**, E. Ozcan. **A Recognizer for Free-Hand Graph Drawings.** *International Workshop on Pen-Based Learning Technologies, Catania, Italy, May 24-25 (2007).*
73. **T. M. Sezgin.** **Overview of Recent Work in Pen-Centric Computing.** *Invited Workshop on Pen-Centric Computing, Providence RI, March 26-28 (2007).*
74. F. Sezgin and **T. M. Sezgin.** **On the Statistical Analysis of Feigenbaum Constants.** *Journal of the Franklin Institute, vol. 343, pp. 756-758 (2006).*
75. **T. M. Sezgin.** **Sketch Interpretation Using Multiscale Models of Temporal Patterns.** *In NESCAI'06 Northeast Student Colloquium on Artificial Intelligence., Ithaca NY, April 28-29 (2006).*
76. **T. M. Sezgin**, T. Stahovich, and R. Davis. **Sketch Based Interfaces: Early Processing for Sketch Understanding.** *In ACM SIGGRAPH 2006 courses (SIGGRAPH '06). ACM, New York, NY, USA, Article 22 (2006).*
77. **T. M. Sezgin** and R. Davis. **HMM-Based Efficient Sketch Recognition.** *In Proceedings of the International Conference on Intelligent User Interfaces (IUI'05), San Diego, CA. (2005).*
78. **T. M. Sezgin** and R. Davis. **Handling Overtraced Strokes in Hand-Drawn Sketches.** *In Proceedings of the AAAI Spring Symposium Series: Making Pen-Based Interaction Intelligent and Natural, Washington DC, (2004).*
79. **T. M. Sezgin** and R. Davis. **Scale-space Based Feature Point Detection for Digital Ink.** *In Proceedings of the AAAI Spring Symposium Series: Making Pen-Based Interaction Intelligent and Natural, Washington DC, (2004).*
80. **T. M. Sezgin**, T. Stahovich, and R. Davis. **Sketch Based Interfaces: Early Processing for Sketch Understanding.** *ACM International Conference Proc., Vol. 15. Perceptive User Interfaces, Orlando FL. (2001).*

Abstracts and Technical Reports

1. Bahar B., Barla I, Boymul Ö., Dicle Ç., Erol B., Saraçlar M., **Sezgin T. M.**, Zelezny M., **Mobile-Phone Based Gesture Recognition.** *In Proceedings of eINTERFACE'07, The Summer Workshop on Multimodal Interfaces, Istanbul, Turkey (2007).*
2. Savran, A., Celiktutan, O., Akyol, A., Trojanova, J., Dibeklioglu, H., Esenlik, S., Bozkurt, N., Demirkir, C., Akagunduz, E., Caliskan, K., Alyuz, N., Sankur, B., Ulusoy, I., Akarun, L., and **Sezgin, T. M.**, **3D Face Recognition Performance Under Adversarial Conditions.** *In Proceedings of eINTERFACE'07, The Summer Workshop on Multimodal Interfaces, Istanbul, Turkey (2007).*
3. **T. M. Sezgin** and R. Davis. **Modeling Sketching as a Dynamic Process.** *In Proceedings of CSAIL Student Workshop '05 Gloucester, MA (2005).*
4. **T. M. Sezgin** and R. Davis. **Efficient search space exploration for sketch recognition.** *In MIT Computer Science and Artificial Intelligence Laboratory Annual Research Abstract. (2004).*
5. **T. M. Sezgin** and R. Davis. **Early Sketch Processing with Application in HMM Based Sketch Recognition.** *In MIT Computer Science and Artificial Intelligence Laboratory Technical Report AIM-2004-016, (2004).*

6. **T. M. Sezgin. Recognition efficiency issues for freehand sketches.** *Proceedings of the MIT Student Oxygen Workshop. Gloucester, MA.* (2003).
7. *R. Davis, A. Adler, C. Alvarado, T. Hammond, R. Hitchcock, T. M. Sezgin, and O. Veselova. Designs for the Future.* In *MIT Artificial Intelligence Laboratory Annual Abstract.* (2002).
8. **T. M. Sezgin and R. Davis. Generating Domain Specific Sketch Recognizers from Object Descriptions.** In *MIT Artificial Intelligence Laboratory Annual Abstract.* (2002).
9. *C. Alvarado, T. M. Sezgin, D. Scott, T. Hammond, Z. Kasheff, M. Oltmans, and R. Davis. A Framework for Multi-Domain Sketch Recognition.* In *MIT Artificial Intelligence Laboratory Annual Abstract.* (2001).
10. **T. M. Sezgin and R. Davis. Scale-space Based Feature Point Detection for Noisy Digital Curves.** In *MIT Artificial Intelligence Laboratory Annual Abstract.* (2001).

PATENTS & INVENTION DISCLOSURES

Patent applications

European Patent Application,

T. M. Sezgin, C. Şen, Semi-Automatic Web Page Content Retargeting System,
PCT/EP2015/067681, European Patent Office, July 2015.

European Patent Application, Granted

T. M. Sezgin, Ö. Kalay, Gaze-Based Detection of Intention to Fix Misrecognitions,
PCT/TR2015/00015, European Patent Office, March 2015.

European Patent Application, Granted

T. M. Sezgin, Ç. Çığ, Gaze-Based Mode Inference for Pen-Based Interaction,
PCT/TR2014/00189, European Patent Office, May 2014.

European Patent Application,

T. M. Sezgin, C. Başdoğan, A. Arasan, A Stylus (Vibrotactile Stylus),
PCT/EP2013/057748, European Patent Office, April 2013.

Invention Disclosures

Under review, Ç. Çığ, **T. M. Sezgin,** *BBF # 2015.6.X*

Koç University, Research, Project Development and Technology Transfer Directorate

Semi-Automatic Web Page Content Retargeting System, C. Şen, **T. M. Sezgin,** *BBF # 2014.10.X*

Koç University, Research, Project Development and Technology Transfer Directorate

Gaze-Based Detection of Intention to Fix Misrecognitions, O. Kalay., **T. M. Sezgin,** *BBF # 2014.10.X*

Koç University, Research, Project Development and Technology Transfer Directorate

Gaze-Based Mode Inference for Pen-Based Interaction, Ç. Çığ, **T. M. Sezgin,** *BBF # 2013.03.002*

Koç University, Research, Project Development and Technology Transfer Directorate

Haptic Stylus Having Inertial & Vibro-Tactile Feedback, A. Arasan, Ç. Başdoğan, **T. M. Sezgin,** *BBF # 2012.10.X*

Koç University, Research, Project Development and Technology Transfer Directorate

Auto-Completion in Sketch Recognition, **T. M. Sezgin,** B. Yanıkoğlu, Ç. Tırkaz, *BBF # 2011.03.X*

Koç University, Research, Project Development and Technology Transfer Directorate

Recognition and Fragmentation of Hand-Drawn Curves, **T. M. Sezgin,** S. Tümen, *BBF # 2010.08.003*

Koç University, Research, Project Development and Technology Transfer Directorate

GRANTS

- Acronym:** 1003S
Source: Scientific & Technological Research Council of Turkey, High Priority Areas R&D Program
Title: Tangible Intelligent Interfaces for Teaching Computational Thinking Skills
Role: Principal Investigator, Koç University
Duration: 2019 – 2021
- Acronym:** 1001
Source: Scientific & Technological Research Council of Turkey, 1001 Program
Title: Backchannel Feedback Modeling for Human-Computer Interaction
Role: Co-PI, Koç University
Duration: 2018 – 2020
- Acronym:** JOKER
Source: European Commission ERA-Net Program, CHIST-ERA Intelligent User Interfaces Call
Title: Joke and Empathy of a Robot/ECA: Towards Social and Affective Relations with a Robot
Consortium: CNRS-LIMSI (coordinator), Koç University, University College Dublin, LIUM, Univ. of Mons
Role: Principal Investigator, Koç University
Duration: 2013 – 2016
- Acronym:** iMotion
Source: European Commission ERA-Net Program, CHIST-ERA Intelligent User Interfaces Call
Title: Intelligent Multimodal Augmented Video Motion Retrieval System
Consortium: University of Basel (coordinator), Koç University, University of Mons
Role: Principal Investigator, Koç University
Duration: 2013 – 2016
- Acronym:** ASC-Inclusion
Source: European Commission STREP, FP7-ICT-2013-10, ICT-2013.11.4
Title: Internet-Based Environment for Social Inclusion of Children w/Autism Spectrum Conditions
Consortium: Technische Universität München (coordinator), University of Cambridge, Koç University, Bar Ilan University, Compedia Ltd., Karolinska Institutet, Univ. of Genoa, Spectrum ASC-MED
Role: Principal Investigator, Koç University
Duration: 2013 – 2014
- Acronym:** 1003
Source: Scientific & Technological Research Council of Turkey, High Priority Areas R&D Program
Title: Intelligent Interfaces for eLearning
Role: Principal Investigator, Koç University
Duration: 2013 – 2016
- Acronym:** SANTEZ
Source: SANTEZ Programme, Ministry of Science, Industry, and Technology, Turkey
Title: Semi-supervised Intelligent Multimodal Content Translator for Smart TVs
Role: Principal Investigator, Koç University
Duration: 2012 – 2015
- Acronym:** SmartGestures
Source: Koç Sistem R&D Programme
Title: Gesture-Based Interfaces
Role: Co-PI, Koç University
Duration: 2011 – 2013
- Acronym:** Career-TR
Source: Career Grant, Scientific and Technological Research Council of Turkey
Title: Pen-based Multimodal Intelligent User Interfaces
Role: Principal Investigator, Koç University
Duration: 2011 – 2014

Acronym: *TT-RD*
Source: *Turk Telekom R&D Programme*
Title: *Educational Sketch-Based Intelligent Interfaces*
Role: *Principal Investigator, Koç University*
Duration: *2010 – 2013*

Acronym: *KOLT*
Source: *KOLT Teaching Innovation Grant*
Title: *Interactive Intelligent Sketching Board*
Role: *Principal Investigator, Koç University*
Duration: *2010 – 2011*

Acronym: *DeepGreen I*
Source: *DARPA/SAIC (Science Applications International Corporation)*
Title: *Deep Green: Commander's Associate (sketch-to-plan module)*
Role: *co-PI for the sketch-to-plan module, Koç University*
Duration: *2008 – 2009*

Acronym: *DeepGreen II*
Source: *DARPA/BAE/SIFT (British Aerospace/Smart Information Flow Technologies)*
Title: *Deep Green: Commander's Associate (sketch-to-plan module)*
Role: *Subcontractor, Koç University*
Duration: *2008 – 2009*

GRANTS – Summary and Quantitative Metrics

Summary of the major grants: The budget amounts have been converted to US dollars. However, the cost of funding graduate students varies by country, and is subject to change due to varying exchange rates. Hence, the scale and significance of the amount of funding is better reflected in the number of students/postdoc man-months supported by each grant, as indicated in the last column.

Acronym	Funding Type	Duration in months	Status	Scale of support
ASC Inclusion	European Union, FP7	14	Completed	3 graduate students for 14 M, 1 postdoc for 14 M, Equipment & Travel
1003	National	36	Completed	3 graduate students for 3 years, 1 postdoc for 3 years, Equipment & Travel
1003S	National	24	Ongoing	3 graduate students for 2 years, Equipment & Travel
1001	National	24	Ongoing	3 graduate students for 2 years, Equipment & Travel
GEBIP	Turkish Academy of Sciences	36	Completed	Equipment & Travel for three years
Santez	National	30	Completed	2 graduate students for 2 years, Equipment & Travel
Koç Sistem	Industrial	24	Completed	2 graduate students for 2 years, Equipment & Travel
Turk Telekom	Industrial	24	Completed	2 graduate students for 2 years, Equipment & Travel
			TOTAL	678 man-months grad student, 86 man-months postdoc fund, Equipment & Travel

PROFESSIONAL SERVICE AND AFFILIATIONS

Editorial

AIEDAM Special Issue on Intelligent Interaction Design, Guest Editor, (2019)
Computers and Graphics, Special Section on Expressive 2015, Guest Editor (2015)
Computers and Graphics, CAe, NPAR, and SBIM Special Issue, Guest Editor (2011)
Koç University Press, Member of the Editorial Board

Chair / co-chair

Co-chair, Workshop on Visual Analysis of Sketches, ECCV 2016
Co-chair, Expressive 2016
Chair, Expressive 2015
Chair, Sketch Based Interfaces and Modeling 2014
Co-chair, Visual Languages and Computing 2013
Co-chair, Program, Visual Languages and Computing 2012
Associate Chair, International Conference on Multimodal Interaction 2014
Associate Chair, Intelligent User Interfaces 2012
Posters Chair, Sketch Based Interfaces and Modeling 2013
Posters Chair, Sketch Based Interfaces and Modeling 2012
Co-chair, Sketch Based Interfaces and Modeling 2011
Member of the Steering Committee, Expressive International Joint Symposium, CAe, SBIM and NPAR

Program Committee

International Joint Conference on Artificial Intelligence, (2020)
IEEE International Conference on Multimedia & Expo, (2020)
IEEE International Conference on Artificial Intelligence and Virtual Reality (2018)
International Conference on Multimodal Interfaces (Senior PC Member, 2014)
International Workshop on Emotion, Social Signals, Sentiment & Linked Open Data (2014)
Sketch Based Interfaces and Modeling (SBIM 2007, 2008, 2009)
International Conference on Autonomic and Autonomous Systems
VL/HCC Workshop (2008)
Accessible Graphics (2012)
IUI Workshop on Sketch Recognition (2009)
AISB 2009 Symposium on Affective Bodily Expression
International Workshop on Human Behavior Understanding (2010)
International Workshop on Cognitive Information Processing (2012)

Reviewer

Physics Letters A
The Computer Journal
Pattern Recognition Journal
Journal of Multimodal Interfaces
Computers and Graphics Journal
IEEE Robotics and Automation Letters
Systems, Man and Cybernetics - Part B
Machine Vision and Applications Journal
Computer Vision and Image Understanding
Human Computer-Interaction Journal (HCI)
IEEE Transactions on Image Processing Journal
Eurasip Journal on Advances in Signal Processing

SIGGRAPH
SIGGRAPH Asia
IEEE Haptics Symposium
MIT Student Oxygen Workshop (SOW)
European Signal Processing Conference
European Conference on Artificial Intelligence
International Conference on Multimedia & Expo
International Joint Conferences on Artificial Intelligence (IJCAI)
International Conference on Multimodal Interfaces (ICMI)

ACM Transactions on Interactive Intelligent Systems (TiiS)
User Interface Software and Technology Conference (UIST)
Tangible Embedded & Embodied Interaction Conference (TES).
Artificial Intelligence for Engineering Design, Analysis and Manufacturing
ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference

Grant Panels & Reviews

H2020, FET OPEN Call
European Research Council
Foundation for Polish Science
TUBITAK (The Scientific and Technological Council of Turkey)
The Royal Society of New Zealand

Organizer

MIT Dangerous Ideas Seminar Series
St. Computer Science and Engineering Workshop (co-initiator)

Member

Association for the Advancement of Artificial Intelligence (AAAI)
Association for Computing Machinery (ACM)
Institute of Electrical and Electronics Engineers (IEEE)

Other

Founding Vice President , AAAI Chapter of Turkey
MIT TechLink AI Lab representative
Turkish SME Development Organization, Innovation and Collaboration R&D Committee
Koç University iTunes Committee
Koç University Graduate School of Social Sciences & Humanities TTT Committee Member

TEACHING

<i>Mobile programming</i>	<i>Spring 2015</i>
<i>Structure and Interpretation of Computer Programs</i>	<i>Spring 2011- 2013</i>
<i>Intelligent User Interfaces</i>	<i>Fall/Spring 2010-2020</i>
<i>Programming Language Concepts</i>	<i>Fall 2009-2019</i>
<i>Probability and Statistical Methods for Engineers</i>	<i>Spring 2009-2013</i>
<i>Introduction to Engineering</i>	<i>Spring 2009-2010</i>

BOARD MEMBERSHIPS & CONSULTING

AAAI Chapter of Turkey, Board Member (2020)
Bahçeşehir University, Department of Artificial Intelligence, Advisory Board (2020)
Özyeğin University, Department of Computer Science Advisory Board (2019)
İş Bank, Technology Advisory Board (2018)
TÜBİTAK Bilim Genç Magazine, Advisory Board (2014-2018)
Koç University Press, Editorial Board (2015)
Koç University Incubation Center, Advisory Board (2014)

Koç University Technology Transfer Office, Advisory Board (2013)

Inventram Technology, Advisory Board (2011)

TOYOTA Motor Corporation, TOYOTA ITC, Consulting, (2006-2008)

LABORATORY AFFILIATIONS

Koç University	<i>Intelligent User Interfaces Lab, Principal Investigator</i>	<i>2009 – current</i>
Yale University	<i>Computer Graphics Group, Visiting Fellow</i>	<i>2016 – 2017</i>
Harvard University	<i>Intelligent Interactive Systems Group, Visiting Scholar</i>	<i>2010</i>
Koç University	<i>Multimedia Vision & Graphics Lab, Affiliated Faculty</i>	<i>2009 – current</i>
University of Cambridge	<i>Rainbow Group, Research Associate</i>	<i>2006 – 2009</i>
MIT	<i>CSAIL</i>	<i>2003 – 2006</i>
MIT	<i>Artificial Intelligence Laboratory</i>	<i>1999 – 2003</i>

INVITED TALKS & PANELS

<i>Getting a Grasp of Artificial Intelligence</i> <i>DigitalTalks, Istanbul</i>	<i>20/05/20</i>
<i>Machine Learning for Interaction: Psychology-Driven Design of Intelligent Interfaces</i> <i>Science Academy, Summer School on Artificial Intelligence, Bilkent University, Turkey</i>	<i>29/06/20</i>
<i>Technological solutions to technology-driven challenges of the changing societies</i> <i>Turkish-German Frontiers of Social Science Symposium, Leipzig, Germany</i>	<i>24/10/19</i>
<i>Turkish-German Artificial Intelligence Summit</i> <i>Berlin, Germany</i>	<i>22/08/19</i>
<i>Future of the Automotive Industry Workshop</i> <i>Stanford University, CA, organize by the Investment Office of the Presidency of Turkey</i>	<i>20/06/19</i>
<i>Individuals and Institutions in a World of Artificial Intelligence</i> <i>DigitalTalks, Istanbul</i>	<i>13/11/18</i>
<i>Psychology-Driven Design of Intelligent Interfaces</i> <i>IBM Research, San Jose, CA</i>	<i>19/06/19</i>
<i>Psychology-Driven Design of Intelligent Interfaces</i> <i>Disney Research, Zürich</i>	<i>25/03/19</i>
<i>Panelist: Artificial Intelligence</i> <i>Koc University, Turkey</i>	<i>04/05/18</i>
<i>Keynote: International Researchers, Statisticians and Young Statisticians Congress</i> <i>Cesme, Turkey</i>	<i>30/04/18</i>
<i>Human-Machine Symbiosis</i> <i>Undersecretariat of Defense Industries, Ankara, Turkey</i>	<i>28/03/18</i>
<i>Psychology Aware Intelligent Interaction</i> <i>Internationalization Partnership Awards Scheme Workshop, University of Malta, Malta</i>	<i>14/03/18</i>

<i>Artificial Intelligence, Psychology and Mind Reading</i> <i>MIT Club of Turkey, Istanbul, Turkey</i>	10/03/18
<i>Interaction through Subtle Communicative Cues</i> <i>Carnegie Mellon University, Pittsburgh, PA, USA</i>	16/08/17
<i>Enhancing Interaction through Subtle Cues</i> <i>University of California San Diego, San Diego, CA, USA</i>	01/08/17
<i>Psychology and Intelligent User Interaction</i> <i>University of Central Florida, Orlando, FL, USA</i>	21/06/17
<i>Psychology and Intelligent User Interaction</i> <i>Texas A&M University, College Station, TX, USA</i>	15/02/17
<i>Keynote: Past, Present, and the Future of Sketch-Based Interfaces</i> <i>SketchX: Human Sketch Analysis and its Applications, BMVA, London, UK</i>	24/02/16
<i>Seamless Multi-Modal Interaction: Opportunities for Pen-Based Computing</i> <i>Queen Mary University of London, London, UK</i>	25/02/16
<i>Artificial Intelligence and Human Behavior Mining for Intelligent Interaction</i> <i>Artificial Intelligence and Image Processing Gathering, Ankara, Turkey</i>	02/05/15
<i>Artificial Intelligence and Human-Computer Interaction</i> <i>Bilim ve Teknik, Science Seminar Series</i>	07/04/15
<i>Technologies for Smart Interaction and Communication</i> <i>Ministry of Transportation Maritime Affairs and Communication, R&D Workshop, Ankara, Turkey</i>	02/04/15
<i>Enriched Interaction through Inferred Intentions</i> <i>Turkish-German Multimodal Interaction Summit, Istanbul, Turkey</i>	11/11/14
<i>Reading Intentions: Proactive and Predictive Multimodal Intelligent Interfaces</i> <i>Computer Laboratory, University of Cambridge, Cambridge, UK</i>	31/10/14
<i>Intelligent User Interfaces: Practical Considerations in Design and Implementation</i> <i>Muscle International Workshop on Computational Intelligence for Multimedia Understanding, Antalya, Turkey</i>	04/09/13
<i>Intelligent User Interfaces: Natural Interaction for Everyone</i> <i>Imagination Studios, Uppsala, Sweden</i>	05/08/13
<i>Intelligent User Interfaces: Mice Transformed back into Homo Sapiens</i> <i>Boğaziçi University, Istanbul</i>	04/12/12
<i>KU IUI Laboratory, Introduction and Ideas for Extension</i> <i>ASC-Inclusion EU FP10 Project, Extension Meeting, Cambridge, UK.</i>	25/11/12
<i>Panelist: Future of Intelligent User Interfaces: Issues and Challenges</i> <i>CHIST-ERA 2012, ERA-Net conference, Edinburgh, UK.</i>	05/07/12
<i>Keynote: Intelligent Interaction, Recognition and Multimodal Fusion: the Cases for Sketching, Gestures, Speech, Haptics, Eye-gaze and Affect</i> <i>CHIST-ERA 2012, ERA-Net conference, Edinburgh, UK.</i>	05/07/12
<i>Academia Panel, CSW 2012</i>	28/04/12
<i>Academia 101</i> <i>Koç University ACM Chapter</i>	25/11/11

<i>Feature Extraction and Classifier Combination for Image-based Sketch Recognition</i> <i>Sabanci University, Istanbul, Turkey</i>	6/04/11
<i>Intelligent User Interfaces Research Overview</i> <i>Intelligent Interactive Systems Lab, Harvard University, USA</i>	07/13/10
<i>Building Sketch-Based Intelligent User Interfaces</i> <i>University of Nottingham, UK</i>	06/29/10
<i>Overview of Recent Work in Pen-Centric Computing</i> <i>Design Rationale Group, MIT, Cambridge MA</i>	04/11/09
<i>Deep Green Related Work on Sketch Recognition</i> <i>Texas A&M University, College Station, TX</i>	25/04/09
<i>Intelligent User Interfaces for Natural Human Computer Interaction</i> <i>Sabanci University, Istanbul, Turkey</i>	12/03/09
<i>Sketch Recognition with Multiscale Stochastic Models of Temporal Patterns</i> <i>Texas A&M University, College Station, TX</i>	09/05/08
<i>Emerging Trends in Intelligent Interfaces and Implications for e-Commerce</i> <i>University of Nottingham, Nottingham, UK</i>	29/04/08
<i>Temporal Sketch Recognition and Sketch Based Interfaces</i> <i>Interface 2007 Workshop, Boğaziçi University, Istanbul</i>	25/07/07
<i>Temporal Sketch Recognition and Sketch Based Interfaces</i> <i>University of Bath, Bath, UK</i>	18/05/07
<i>Affective Interfaces</i> <i>University of Salford, Manchester, UK</i>	28/11/06
<i>Overview of Recent Work in Pen-Centric Computing</i> <i>Invited Workshop on Pen-Centric Computing, Providence RI</i>	26/03/06
<i>Sketch Recognition Using Dynamic Bayesian Networks</i> <i>University of New Mexico, Albuquerque NM</i>	09/03/06

WORK EXPERIENCE

<i>Computer Software Engineer at Havelsan Aerospace Electronic Industry Inc. Ankara, Turkey</i>	06/99 – 09/99
<i>Research Intern at ASELSAN Electronics. Ankara, Turkey</i>	06/98 – 07/98
<i>Computer Software Developer. Syracuse University Physics Department, Syracuse NY</i>	09/96 – 12/98
<i>Computer Software Developer. BlackWatch Tech. Inc., Syracuse NY</i>	08/96 – 05/98

ORGANIZED SEMINAR SERIES

<i>Graduate Seminars, Department of Engineering, Koç University, Istanbul.</i>	12/09 – 01/11
<i>Rainbow Group Thursday Seminars, Computer Lab., University of Cambridge, Cambridge UK.</i>	01/08 – 04/08
<i>Dangerous Ideas Seminar Series, MIT CSAIL, Cambridge MA.</i>	06/04 – 06/06

WORKSHOPS and TUTORIALS

<i>Intelligent User Interfaces, Fethiye, Turkey.</i>	04/18/12
<i>Invited tutorial on intelligent user interfaces delivered at the 20th IEEE Signal Processing and Communication Conference.</i>	

Building Sketch-Based Intelligent User Interfaces, University of Nottingham, UK. 06/29/10
Invited one-day tutorial covering machine learning, human computer interfaces, evaluation strategies, the design, construction, evaluation of sketch-based intelligent user interfaces.

Annual Oxygen Alliance Partnership Meeting, MIT CSAIL, Cambridge MA. 04/24/02
Co-organization of a day workshop for industry professionals from Project Oxygen partners, focusing on the essentials of building sketch based applications for PDAs and Tablet PCs from ground up.

EXHIBITIONS & FAIRS

Predicting User Intention in Sytlus Use October 2014
TechInnovation Fair
Marina Bay Sands, Singapore

Pen-Based Interfaces for Teaching and Learning September 2012
Turk Telekom R&D Days
Sapanca, Turkey

Mind-Reading Machines January 2007
IIT Techfest
IIT, Bombay, India

Mind-Reading Machines June 2006
The Royal Society Summer Science Exhibition
The Royal Society, London, UK

Mind-Reading Machines September 2006
The Royal Society Summer Science Exhibition
Glasgow Science Center, Glasgow, UK

Thrill Laboratory, Mind-Reading Machines October 2006
The Dana Center, London UK

PRESS COVERAGE

Hurriyet *Intentions Inferred by Artificial Intelligence*
Jun 2018

QUARTZ *It's Time to Teach Kids How to Read Charts*
Jan 2018

Turkishtime *The Impact of Artificial Intelligence in Business*
Jan 2018

INFOMAG *Digital Turks*
Jan 2011

PC World *Microsoft Looks in the Crystal Ball:*
October 2003 Research Chief Demonstrates Magic Paper, Virtual Classrooms, and Other Projects

CNN *Breathing Life into Messy Sketches*
October 2003

New Scientist *Smart Software Makes Sense of Rough Sketches*
September 2003

Mass HighTech *MIT's Tablet Tech Gets a Look-See from Microsoft*
July 2003