Resume of **Kourosh Meshgi**

Room 417, Integrated Systems Biology Laboratory (Ishii lab), Engineering Bldg. No. 1,
Grad. School of Informatics, Kyoto University, Yoshida Honmachi, Kyoto 606-8501 JAPAN
Tel/Fax/Cell: +81-75-753-4809 / +81-75-753-4809 / +81-80-4530-1363
Email: meshgi-k@sys.i.kyoto-u.ac.jp, kouroshmeshgi@gmail.com
Website: http://kouroshmeshgi.com, https://jp.linkedin.com/in/kouroshmeshgi

- **Objective:**
  - Brining my understanding of Human Cognition, Machine Learning Techniques, and Computer-Brain Interfaces to the edge-of-knowledge so I can bring this edge further, invent new devices to help humanity and make automated systems and robots "smarter".
  - *Interests:* Machine Learning, Computer Vision, Computational Linguistics, Robotics

- **Education:**
  - *10/2011 – 09/2015:*   **Ph.D. in Informatics,** Department of Systems Science, Graduate School of Informatics, Kyoto University, Kyoto, Japan
    1. Ph.D. Dissertation: "Particle Filter-based Tracking to Handle Persistent and Complex Occlusions and Imitate Arbitrary Black-box Trackers", under supervision of Dr. S. Ishii
    2. Interests: Sequential Data Analysis, Computer Vision (RGBD Visual Tracking, 3D Reconstruction)
  - *09/2008 – 10/2010:*   **M.Sc. in Artificial Intelligence**, Top Student, Department of Computer Engineering, Amirkabir University of Technology, Tehran, Iran
    1. M.Sc. Thesis: "Brain Inspired Face Detection", developing a Visual Cortex Top-Down Model to Reduce Non-Stationary Covariance Dependency in Natural Input Images such as Human Faces and Cluster Objects based on their Image Distribution, under supervision of Dr. S. Shiry
  - *09/2002 – 07/2008:*   **B.Sc. in Computer Engineering**, Department of Computer Engineering, Amirkabir University of Technology, Tehran, Iran
    1. B.Sc. Project: "Random Early Congestion Detection of Packet Switched Networks Using Fuzzy Q-Learning", Adapting Routers to General Usage of Network by Adjusting Parameters of RED Algorithm with Fuzzy Q-Learning Simulated by OPNet, under supervision of Dr. S. Shiry
  - *09/1998 - 06/2002:*   **Diploma in Mathematics**, Top Student, Sadr High School, Tehran, Iran

- **Work Experience:**
  - *10/2015 – Present:*   Post-doc Researcher, Ishii Lab, Kyoto University, Kyoto, Japan
    1. Project 1: New Energy and Industrial Technology Development Organization (NEDO Samurai) Project, New Frontiers of Active Learning and Deep Neural Networks Applied in Visual Tracking, Unfolding the Active Learning Mechanism in Motor Cortex, Applying the Active Inference Brain-Inspired Motor Control to Robot Arm (Kinova MICO)
    2. Project 2: MEXT Post-K Project, "High-throughput methods to analyze structural and functional big-data of neural circuits" and "Brain inspired architecture of artificial intelligence" subthemes, Distributed Multi-Modal Inference Framework Development to run on Post K-Supercomputer, In collaboration with RIKEN QBiC Takahashi Lab, RIKEN AIP Harada Lab, and OIST Doya Lab. https://brain-hpc.jp/en/members/
    3. Project 3: Conversation Envisioning in Mixed Reality, Envisioning Tacit Verbal and Non-Verbal Aspects of Situated Conversations by Leveraging VR and AR Immersive Environments, In collaboration with RIKEN AIP Nishida Lab http://www.riken.jp/en/research/labs/aip/ai_soc/hum_ai_comm/
  - *4/2015 – 10/2015:*   R&D Engineer, R&D Division, 3D MEDiA Co. Ltd., Kusatsu, Japan https://www.kyotorobotics.co.jp/en/company.html
    1. Project 1: Path Planning, Collision Detection, and Grasp Planning for Industrial Robots Embedded in Active 3D Vision Sensing Solution for Work cells (for FANUC, Yasukawa, Kawasaki, Mitsubishi, and Denso Arms) as a part of 3D Vision Solution for Industrial Pick-and-Place
  - *10/2014 – 3/2015:*   Researcher, Matsuda Lab, Kyoto University Medical School, Kyoto, Japan

1. Project 1: Research and Education Platform for Innovative Research on Dynamic Living Systems Based on Multi-dimensional Quantitative Imaging and Mathematical Modeling (AMED Seimei-Doutai)
- *1/2012 – 10/2014:* Research Assistant, Ishii Lab, Kyoto University, Kyoto, Japan
    1. Project 1: Frontal Face Reconstruction, Denso Co.
    2. Project 2: Object Tracking with RGB-D Data, Kyoto University Informatics Graduate School
- *7/2011 – 10/2011:* Project Management Consultant, Shahrpardaz Co., Tehran, Iran
    1. Project: Member of Tehran Bus e-Ticket Vending Automation Project Team (Project Management Team)
    2. Integrating Several Management Standards and Methodologies to Realize Progressive Improvement in Organization, such as ISO9001, ITIL v3.0, PMBOK 2008, ISO14000 &18000 and 5S
- *8/2010 – 7/2011:* R&D Department Manager, Shahrpardaz Co., Tehran, Iran
    1. Project: Member of Tehran Subway Ticket Vending Automation Project Team, Project Management Inspector/Internal Audit, Defect Analysis Engineer (Service Layer Management Team)
    2. Systematic Software Testing (Hardware, Software and Business Process)
    3. Banknote Feature Analysis, Developing Blueprint of a Banknote Validator Device, Certified to Repair and Calibrate 3rd Party (Armatic Co.) Banknote Reader Devices, Comprehensive Study over Iranian Banknotes
    4. Initial Idea, Proposing and Quality Control of Kiosk Systems (Ticket Vending, Banking, Information, Self Service Kiosks), Product Maintenance Procedure Analysis
    5. Study and Comparison, Preparation and Fault Detection of Kiosk Mounted Devices
    6. Technical Party of Negotiation Team in International Meetings
- *10/2010 – 3/2011:* Software Developer, Behpooyesh Co., Tehran, Iran
    1. Projects: Member of Tehran Traffic Control Surveillance System Automation Project (Service Layer Management Team) , Member of Behnama Surveillance System Development (Development Team)
    2. Video Surveillance Systems, Video Understanding & Event Detection, IP Cameras
- *10/2007 – 10/2010:* Research Assistant, Robotics Research Lab, Department of Computer Engineering, Amirkabir University of Technology, Tehran, Iran
    1. Brain Derived Vision (Top-Down Cortical Models, Natural Image Understanding)
    2. Reinforcement Learning Applications (Computer Networks, Robotic Soccer)
- *5/2009 – 3/2010:* Software Testing R&D, QA Team, IT Orbit Co. ,Tehran, Iran
    1. Project: Member of Unified University System (NAD Product) Project (Software Testing Team)
    2. Software Development Quality Control Procedure, Test Process Management, ISTQB Foundation Level Training, Software Risk Analysis, Developing Software Test Documentation & Plan (IEEE Std. 829), Familiar with STEP Methodology, Focus on Functional Testing Techniques and Familiar with Test Tools HP Quality Center (QC) and HP Quick Test Professional (QTP)
- *10/2007 – 8/2010:* Teacher Assistant, Amirkabir University of Technology
    1. Robotics (M.Sc. Course), By Dr. Shiry
    2. Artificial Intelligence (M.Sc. Course), By Dr. Khadivi
    3. Introduction To Artificial Intelligence (B.Sc. Course),By Dr. Ebadzadeh,5 Consecutive Semesters
- *10/2004 – 3/2008:* Researcher, Robotics Research Center, Department of Computer Engineering, Amirkabir University of Technology, Tehran, Iran
    1. ZMP-based Actor-Critic Learning Framework for Gait Planning of a Biped Humanoid
    2. Hierarchical Architecture for Soccer Playing Humanoids in 3D World
    3. Fuzzy Knowledge-Base to Inference with Propositional Logic
- *07/2006 - 04/2007:* Telecom. Switches R&D, Mediation Team, Data Processing Co., Tehran, Iran
    1. Project: Member of Nationwide Telecom. Centers Billing System (Software/Hardware Mediation Team)
    2. Developing Distributed Data Acquisition Agents for Telecommunication Switches

• **Publications:**
- Peer-reviewed Journals:
    1. M. S. Mirzaei, **K. Meshgi**, T. Kawahara, "*Exploiting Automatic Speech Recognition Errors to Enhance Partial and Synchronized Caption for Facilitating Second Language Listening,*" Computer Speech and Language Journal, vol. 49, pp. 17-36, *2018*.

2. **K. Meshgi**, S.i. Maeda, S. Oba, S. Ishii, "*Constructing a Meta-Tracker using Dropout to Imitate the Behavior of an Arbitrary Black-box Tracker,*" Journal of Neural Networks, vol. 87, pp. 132-148, *2017*.

3. M. S. Mirzaei, **K. Meshgi**, Y. Akita, T. Kawahara, "*Partial and synchronized captioning: A new tool to assist learners in developing second language listening skill,*" ReCALL, vol. 29, pp. 178-199, *2017*.

4. **K. Meshgi**, S.i. Maeda, S. Oba, H. Skibbe, Y.Z. Li, S. Ishii, "*Occlusion Aware Particle Filter Tracker to Handle Complex and Persistent Occlusions,*" Journal of Computer Vision and Image Understanding, *2016*.

5. **K. Meshgi**, S. Ishii, "*The State-of-the-Art in Handling Occlusions for Visual Object Tracking,*" IEICE Transactions on Information and Systems, vol. E98-D, no. 7, pp. 1260-1274, *2015*.

6. S. MasoumZadeh, **K. Meshgi**, S. Shiry, G. Taghizadeh, "*FQL-RED: An Adaptive Scalable Schema for Active Queue Management,*" Int'l. Journal of Network Mgmt. (IJNM), vol. 21, pp.157-167 Wiley, *2011*.

o Book Chapters:

1. **K. Meshgi**, and S. Oba "*Active Collaboration of Classifiers for Visual Tracking,*" in G. Anbarjafari and S. Escalera (Eds) Human-Robot Interaction - Theory and Application, InTech Publication, *2017 (in press)*, ISBN 978-953-51-5611-6.

o Peer-reviewed Conferences:

1. **K. Meshgi**, S. Oba, and S. Ishii, "*Efficient Diverse Ensemble for Discriminative Co-Tracking,*" in Proc. of CVPR'18, IEEE, Salt Lake City, USA, *Jun 2018*.

2. **K. Meshgi** and S. Oba, "*Information-Maximizing Sampling to Promote Tracking-by-Detection,*" in Proc. of ICIP'18, IEEE, Athens, Greece, *Oct 2018*.

3. A. Kubo, **K. Meshgi**, S. Ishii, "*Adaptive update for Discriminative Correlation Filter based tracker via Reinforcement Learning*", in Proc. Of ECCV'18, Munich, Germany, *Sep 2018 (submitted)*.

4. **K. Meshgi**, M. S. Mirzaei, "*A Data-driven Approach to Generate Partial and Synchronized Caption for Second Language Listeners,*" in Proc. of WorldCALL'18, Concepcion, Chile, *Nov 2018*.

5. M. S. Mirzaei, **K. Meshgi**, "*Automatic Scaffolding for L2 Listeners by Leveraging Natural Language Processing,*" in Proc. of EuroCALL'18, Jyväskylä, Finland, *Aug 2018*.

6. **K. Meshgi**, M. S. Mirzaei, "*A Data-driven Approach to Generate Partial and Synchronized Caption for Second Language Listeners,*" in Proc. of WorldCALL'18, Concepcion, Chile, *Nov 2018*.

7. **K. Meshgi**, M. S. Mirzaei, S. Oba, and S. Ishii, "*Efficient Asymmetric Co-Tracking using Uncertainty Sampling,*" ICSIPA'17, IEEE, Kuching, Malaysia, *Sep 2017* (Best paper award).

8. **K. Meshgi**, M. S. Mirzaei, S. Oba, and S. Ishii, "*Active Collaborative Ensemble Tracking,*" in Proc. of AVSS'17, IEEE, Lecce, Italy, *Aug 2017*.

9. **K. Meshgi**, S. Oba, and S. Ishii, "*Adversarial Sampling to Robustify Active Discriminative Co-Tracking,*" in Proc. of MIRU'17, Hiroshima, Japan, *Aug 2017*.

10. M. S. Mirzaei, **K. Meshgi**, T. Kawahara, "*Detecting listening difficulty for second language learners using Automatic Speech Recognition errors,*" in Proc. of SLaTE'17, Stockholm, Sweden, *Aug 2017*.

11. M. S. Mirzaei, **K. Meshgi**, T. Kawahara, "*Listening Difficulty Detection to Foster Second Language Listening with Partial and Synchronized Caption,*" in Proc. of EuroCALL'17, Southampton, England, *Aug 2017*.

12. **K. Meshgi**, S. Oba, and S. Ishii, "*Active Discriminative Tracking using Collective Memory,*" in Proc. of MVA'17, IEEE, Tokyo, Japan, *May 2017*.

13. **K. Meshgi**, S. Oba, and S. Ishii, "*Efficient Version-Space Reduction for Visual Tracking,*" in Proc. of CRV'17, IEEE, Edmonton, Canada, *May 2017*.

14. **K. Meshgi**, S. Oba, and S. Ishii, "*Robust Discriminative Tracking via Query-by-Bagging,*" in Proc. of AVSS'16, Colorado, USA, *2016*.

15. **K. Meshgi**, S.i. Maeda, S. Oba, and S. Ishii, "*Data-driven Probabilistic Occlusion Mask to Promote Visual Tracking,*" in Proc. of CRV'16, IEEE, British Columbia, Canada, *2016*.

16. M. S. Mirzaei, **K. Meshgi**, T. Kawahara, "*Leveraging automatic speech recognition errors to detect challenging speech segments in TED talks,*" in Proc. of EuroCALL'16, Limassol, Cyprus, *Aug 2016*.

17. M. S. Mirzaei, **K. Meshgi**, T. Kawahara, "*Automatic speech recognition errors as a predictor of L2 listening difficulties,*" in Proc. of Coling'16 (CL4LC Workshop), Osaka, Japan, *Nov 2016*.

18. M. S. Mirzaei, **K. Meshgi**, Y. Akita, T. Kawahara, "*Errors in Automatic Speech Recognition versus Difficulties in Second Language Listening,*" in Proc. of EuroCALL'15, Padova, Italy, *Aug 2015*.

19. **K. Meshgi**, and S. Ishii, "*Expanding Histogram of Colors with Gridding to Improve Tracking Accuracy,*" in Proc. of MVA'15, IEEE, Tokyo, Japan, *May 2015*.
20. S. Ebrahimi, **K. Meshgi**, S. Khadivi, S.E. Shiri Ahmad Abady, "*Meta-level Statistical Machine Translation,*" in Proc. of 6th Int'l Joint Conf. on NLP (IJCNLP'13), Nagoya, Japan, *Oct 2013*.
21. S. MasoumZadeh, G. Taghizadeh, **K. Meshgi**, S. Shiry, "*Deep Blue: A Fuzzy Q-Learning Enhanced Active Queue Management Scheme,*" Proc. of Int'l. Conf. on Adaptive and Intelligent Systems (ICAIS'09), Klagenfurt, Austria, *2009*.
22. S. Soleimanpour, S. Shiry, **K. Meshgi**, "*Sensor Fusion in Robot Localization using DS-Evidence Theory with Conflict Detection using Mahalanobis Distance,*" Proc. of 7th IEEE Int'l. Conf. on Cybernetic Intelligent Systems (CIS2008), United Kingdom, *2008*.
23. S. MasoumZadeh, **K. Meshgi**, S. Shiry, "*Adaptive Mutation in Evolution Strategy using Fuzzy Q-Learning,*" Proc. of 13th Iran Computer Association Conf. (ICCSC2008), Kish, Iran, *2008*.

o Technical Reports:
1. **K. Meshgi**, S. Maeda, S. Oba, S. Ishii, "*Imitation Game: How a Imitate any Visual Tracker using a few Videos,*" in International Meeting on High-Dimensional Data Driven Science (HD^3'15), *Dec 2015*.
2. **K. Meshgi**, S. Maeda, S. Oba, S. Ishii, "*Fusion of Multiple Cues from Color and Depth Domains using Occlusion Aware Bayesian Tracker,*" in IEICE Tech. Rep., vol. 113, no. 500, NeuroComputing (NC) 2014-22, pp. 127-132, *Mar 2014*.
3. **K. Meshgi**, Y.Z. Li, S. Oba, S. Maeda, S. Ishii, "*Enhancing Probabilistic Appearance-Based Object Tracking with Depth Information: Object Tracking under Occlusion,*" in IEICE Tech. Rep., vol. 113, no. 197, Information-Based Induction Science and Machine Learning (IBISML) 2013-22, pp. 85-91, *Sep 2013*.

• Qualifications:
o *Abilities:* Machine Learning, Computer Vision, Robotics, Software Testing, Software Development, Project Management, Quick Learner
o *Testing:* ISTQB Foundation Level Training (2009), HP QC(Proficient) HP QTP(Proficient)
o *Management:* ITIL v3.0 Foundation Level Certified (EXIN/APM 2011), PMBOK 2008 Training & Workshop (2011), ISO 9001, 14001 & 18001 Training (2011), ISO 19011:2002 & 13485:2003 Certified Internal Audit (BRS 2011, Cert. #QM/IS-BR/134-349), Psychology Transactional Analysis Training (2007-2009)
o *Programming:* C++(Proficient), Matlab(Proficient), C#.NET(Proficient), C(Intermediate), VB(Familiar), Python (Intermediate)
o *Toolboxes:* Matlab NN, GA, & IPT Toolboxes(Proficient), Weka(Familiar), OpenCV(Familiar), OpenGL(Familiar), Robotics Library
o *Misc:* Bash Programming(Familiar), SQL(Intermediate), MS Project(Familiar), LaTeX

• Honors:
o Awarded **JSPS Kakenhi** (Grants-in-Aid for Scientific Research), Japan Society for the Promotion of Science, *2017*.
o Awarded **ICT Innovation Award 2017**, Kyoto University, *2017*.
o Awarded **Japan Ministry of Economy, Trade and Industry Prize** for Winning NEDO Project, as a part of R&D Team, 3D MEDiA Co. Ltd. (http://www.nedo.go.jp/news/press/AA5_100431.html), *2015*.
o Awarded **Monbokagakusho Scholarship** from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Government of Japan, *2011-2014*.
o Awarded **3rd Place** of Int'l RoboCup 2005 Competitions, Soccer Coach Simulation League, Member of Kasra Team, Osaka, Japan, *2005*.
o Recognized as an **Exceptional Talent** during Master's Program by Amirkabir University of Technology, *2010* (Ranked **1st** in *Fall 2008* & **2nd** in *Spring 2008* semesters in Artificial Intelligence Dept.)
o **Qualified** for Final Round of RoboCup 2010 Competitions, 2D Soccer Simulation League, As a Member of Nemesis Team, Suntec, Singapore, *2010*.
o **Qualified** for Final Round of RoboCup 2007 Competitions, 3D Humanoid Simulation League, As a Member of Aria Team, Atlanta, USA, *2007*.

• Affiliations & Services:

- o Editorial Member of Journal of Robotics Engineering and Automation Technology, Gavin Publishers, USA, *2017-Present* (http://gavinpublishers.com/journal-of-robotic-engineering-automation-editorial-board/).
- o Organizing Committee of Int'l Conference on Computing Science and Technology, ICCTS'17, Guilian, China, *2017*;
- o Organizing Committee of Int'l Conference on Computing Intelligence and Information System, CIIS'17, Nanjing, China, 2017;
- o Organizing Committee of Int'l Conference on Systems and Informatics, ICSAI'17, Hangzhou, China, *2017*;
- o Served as a reviewer for IEEE Trans. Of Multimedia, ACM Computing Surveys (CSUR), Journal of Neural Computing and Applications (NCAA), MDPI Journals (Sensors, Future Internet, Electronics, Information) Journal, IEICE Tran. on Information and Systems, Journal of Computer and Communications (JCC), ICAIR'16, ICCTS'17 and ISCAI'18, FSDM'18;
- o IEEE Member, *2009-Present* (Robotics and Automation Society, *2010-Present;* Signal Processing Society, *2015-Present;* Systems, Man, and Cybernetics Society, *2017-Present*);
- o CIPPRS (Canadian Image Processing and Pattern Recognition Society) Member, *2017-Present;*
- o IEIEC (Institute of Electronics, Information and Communication Engineers) Member, *2017-Present;*
- o CALICO Member, *2015-Present;*
- o RoboCup Soccer Simulation Teams ("Kasra" Coach *2005*, "Aria" 3D *2006-2008*, "Nemesis" 2D *2010*);
- o Organizing Committee of 14th Conf. of Int'l Computer Society of Iran Computer Conference, CSICC'09, Tehran, Iran, *2009*;
- o Organizing Committee of 1st and 2nd Conf. of Information & Knowledge Technology, IKT'03 & IKT'05, Tehran, Iran, *2003-2005.*

- **References:**
  - o Dr. Shin Ishii, Full Professor @ Kyoto University, Japan
  - o Dr. Shigeyuki Oba, Senior Lecturer @ Kyoto University, Japan, Project Manager @ NEDO, Japan
  - o Dr. Toyoaki Nishida, Full Professor @ Kyoto University, Japan, PI @ RIKEN AIP, Japan
  - o Dr. Shin-ichi Maeda, Assistant Professor @ Kyoto University, Japan, Senior Scientist @ Preferred Networks Inc., Japan
  - o Dr. Gong Xu, Full Professor @ Ritsumeikan University, CEO @ 3D MEDiA Co. Ltd., Japan
  - o Dr. Saeed Shiry Ghidary, Assistant Professor @ Amirkabir University of Technology, Iran
    Email addresses will be provided upon request.