Isfahan University of medical sciences

Curriculum Vitae (CV)

First Name: Nasim **Last Name: Dadashi Serej**

Isfahan University of medical sciences, HezarJerib.st.	
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Position Title	Assistant Professor of Medical Engineering

RESEARCH IDs

Item	Value	Web address
ORCID	**0000-0002-2898-1926**	**https://orcid.org/0000-0002-2898-1926**
Scopus	**54788219000**	**www.scopus.com**
ResearcherID	N-6508-2018	http://www.researcherid.com/rid/N-6508-2018

EDUCATION AND TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	FIELD OF STUDY
Physics and biomedical Engineering Group, Faculty of Medicine, Tehran University of Medical Sciences	Ph.D. Degree	Biomedical Engineering Thesis: Adaptive Registration of Endoscopic Videos to MDCT images for Error Reduction in ENT Navigation Systems
Physics and biomedical Engineering Group, Faculty of Medicine, Isfahan University of Medical Sciences,	M.Sc. Degree	Biomedical Engineering Thesis: Extraction of cardiac motion field from CMRI images using similarity measures
Faculty of Electrical Engineering, Sahand University of Technology, Tabriz, Iran	B.Sc. Degree	Biomedical Engineering Thesis: Effects of LASER on human tissue
Farzanegan High school (SAMPAD) Tabriz, Iran	Diploma	Physics and Mathematics

RESEARCH INTEREST

Image and Video Processing, Image Guided Navigation and Surgery, Medical Robotics,
3D Computer Vision with primary emphasis on 4D reconstruction, pose estimation, motion estimation,4D object tracking, 3D SLAM, object recognition, virtual reality, image mosaicking.
Multiscale analysis with application to image enhancement, pattern recognition, texture segmentation and classification.

HONORS AND AWARDS

1. First student in M.Sc. Course, Isfahan University of Medical Sciences, Isfahan, Iran 2010.
2. First Student in Ph.D (except thesis), Tehran University of Medical Sciences, Tehran, Iran, 2012.
3. Member of Talented Students, Isfahan University of Medical Sciences, Isfahan, Iran.
4. The best Session Chair in 13th annual conference ISCEE.
5. Ranked 525th among 400,000 competitors in national universities attendance exam, Iran in B.Sc. of Biomedical Engineering, Sahand University of Technology, Tabriz, Iran, 1999

POSITIONS AND EMPLOYMENT

2007- 2010 Lecturer, Sepahan University, Isfahan, Iran

2011 Head of Computer software Group, Sepahan University, Isfahan, Iran.

2009-2011 Head of Robotics group, Sepahan University, Isfahan, Iran.

2010-2015 Graduate Teaching Assistant/Assistant Instructor, Tehran University of Medical Sciences

2011–2016 Senior Researcher, Research Center for Biomedical Technologies and Robotics (RCBTR), Tehran, Iran.

2016- 2017 Senior Researcher, Medical Image and Signal Processing Research Center (MISP), Isfahan, Iran.

2018- Present Assistant Professor, Department of Advanced Medical Technologies, Isfahan University of Medical Sciences, Isfahan, Iran

2018 – Present Assistant Professor, Vice dean- Research Affairs, Medical Image and Signal Processing Research Center (MISP), Isfahan, Iran.

2017- 2018 Executive Manager of Journal of Medical Signals and Sensors(JMSS), Medical Image& Signal Processing Research Center, Isfahan University of Medical Sciences

2018- Present Associated Editor of Journal of Medical Signals and Sensors(JMSS), Medical Image& Signal Processing Research Center, Isfahan University of Medical Sciences

PUBLICATIONS AND CONTRIBUTIONS

RESEARCH PROJECTS

1. "Designing and Implementing a new Method and Platform for Estimation of Brain shift in Image Guided Surgery systems using Intra-Operative Stereo Image", Tehran University of Medical Sciences,2012.

2. "3D Extraction of Anatomical Structures of Nasal Cavities Using Endoscopic Data" RCSTIM, 2012.

3. "Evaluation of Intraoperative endoscopic video data registration to preoperative CT images in image guided surgery systems" RCSTIM, 2013.

4. A Robust Method for Segmentation of Barrette in Esophagus Endoscopic Images Based on Machine Vision Algorithms", Isfahan University of medical sciences, MISP. 2017

5. "Image-based Localization of the Active Wireless Endoscopic Capsule inside the Stomach" Isfahan University of medical sciences, MISP. 2017.

Patent

1. US Patent 61/612-335" Method and Apparatus for estimation of soft tissue deformation based on intraoperative stereo image features and point based registration"

2. US Patent 61/691-129 "A Method and Apparatus for Reduction of Registration Error in Image Guided Surgery Systems"

Publications

Journal Papers

1. N. Dadashi Serej, A. Ahmadian, S. Kasaei, S. M. SadreHoseini," Robust Key-point Extraction and Matching Algorithm based on Wavelet Transform and Information Theory for Point-Based Registration in Endoscopic Sinus Cavity Data". Springer, Signal, Image & Video Processing, 2015.

2. P. Farnia, A. Ahmadian, N. Dadashi, "Performance Evaluation of the Modified Iterative Closest Point Methods for Intra-operative Ultrasound and pre-operative MR Image Registration of Brain " Journal of Frontiers in Biomedical Technologies, 2014

3. N. Dadashi, A. Ahmadian, S. Mohagheghi, S. M. SaderHose, "A Projected Landmark Method for Reduction of Registration Error in Image Guided Surgery Systems", International Journal of Computer Assisted Radiology and Surgery, JCARS, May 2014

4. P. Farnia, A. Ahmadian, T. Shabanian, N. D. Serej, J. Alirezaie, "Brain-shift compensation by non-rigid registration of intra-operative ultrasound images with preoperative MR images based on residual complexity", International Journal of Computer Assisted Radiology and Surgery, accepted, 2014

5. -A. Ahmadian, N. dadashi, S. karimifard, P. farnia, "An Efficient Method for Estimation of Soft Tissue Deformation Based on Intra-Operative Stereo Image Features and Point-Based Registration" International journal of imaging systems and technology, IMIJI, Vol. 23, 294-303, August 2013.

6. Marzieh Ershad, Alireza Ahmadian, Nassim Dadashi Seraj, Hooshang Saberi, Keyvan Amini Khoiy, "Improving target registration error in vertebra during image-guided spine surgery", Int J CARS (2014) 9:29–38.

7. Fatemeh Nazema, Alireza Ahmadian, Nasim DadashiSeraj, Masoumeh Giti, "Two-stage point-based registration method between ultrasound and CT imaging of the liver based on ICP and Unscented Kalman Filter: A phantom study" Int J CARS (2014) 9:39–48.

8. Aghanouri, M., Ghaffari, A., Dadashi Serej, N., "Image Based High-Level Control System Design for Steering and Controlling of an Active Capsule Endoscope", Journal of Intelligent and Robotic Systems: Theory and Applications (2019).

Oral presentations:

9. P. Farnia, A. Ahmadian, T. Shabanian, J. Alirezaie, N. D. Serej, “A hybrid method for Non-rigid registration of Intra-operative Ultrasound Images with pre-operative MR images”, 36th Annual International IEEE EMBS Conference, Chicago, Illinois, USA, August 26-30, 2014.

10. F. Nazem , A. Ahmadian, N. Dadashi Serj , P.Farniaa, M. Giti, "An efficient hybrid point based registration algorithm between intra-operative ultrasound images and preoperative CT images of liver: a phantom study" SPIE Medical Imaging 2013 , 9-14 February 2013 ,USA.

11. Marzieh Ershad Langroodi, Alireza Ahmadian , Nassim Dadashi Seraj, Hooshang Saberi, Keyvan Amini, "Effect of Landmark Configuration on Target Registration Error for Vertebra: a phantom study" SPIE, Medical Imaging, 9 - 14 February 2013.

12. Marzieh Ershad, Alireza Ahmadian, Nassim Dadashi Seraj, Hooshang Saberi, "Automatic landmark detection in spine surface CT images for registration of pre to intra-operative data" International Conference on Electronic Health (ICEH), 2012.

13. Parastoo Farnia, Alireza Ahmadian, Alireza Khoshnevisan, AmirHossein Jaberzadeh, Nasim Dadashi Serej, Anahita F. Kazerooni,, "An efficient Point Based Registration of Intra-operative Ultrasound images with MR images for computation of brain shift; a Phantom Study" 33rd Annual International IEEE EMBS Conference, August 30 - September 3, 2011.

14. Anahita Fathi Kazerooni, Alireza Ahmadian, Nassim Dadashi Serej, Hamidreza Saligheh Rad, Hooshang Saberi, Hossein Yousefi, Parastoo Farnia, "Segmentation of Brain Tumors in MRI Images Using Multi-scale Gradient Vector Flow" 33rd Annual International IEEE EMBS Conference, August 30 - September 3, 2011.

15. Raheleh kafieh, saeed sadri, nasim dadashi,”Imporoving the results of Automatic landmark detection in cephalometry with extraction of bony structures”, 16th Iranian International Electrical Engineering.

16. Mehrnaz Aghanouri, Ali Ghaffari, Nasim Dadashi Serej,“Image-based localization of the active wireless capsule endoscope inside the stomach”, Biomedical & Health Informatics (BHI), 2017 IEEE EMBS.

PROFFESIONAL SERVICES

Workshops:

2018 Cooperation with student research center as a workshop lecturer.
2018 Cooperation with Second Annual Research Day, School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences.

TEACHING EXPERIENCE

Graduate Teaching experiences

BSP, Signals and Systems, Digital Image Processing, Advanced Digital Image Processing, Biomedical Instruments, Pattern Recognition, Fuzzy System.

Under-graduate Teaching experiences

Biomedical Instruments, Technical English Language, Electrical Circuits I,II, Computer architecture, Digital circuits, Electronics I, II.

PROFESSIONAL/SCIENTIFIC ASSOCIATION MEMBERSHIP

2018 – present Head of student research center in School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences

2008-present Member of Scientific Referees of ISCEE conferences.
Reviewer of Journals: IEEE Transaction of Signal Processing, Journal of Computer assisted Radiology and Surgery, IET Signal Processing, Journal of Medical Signals and Sensors.

WORKSHOP AND TRAINING

1. How to write a Scientific journal Article" Springer workshop, Tehran University of Medical Sciences, 2011.
2. "Teaching methods", Iran University of medical sciences.
3. "Scientific writing" Isfahan University of medical sciences, 2017.
4. "Grant writing", Isfahan University of medical sciences, 2017.