

In the Name of God

CV

NASIM DADASHI SEREJ

## Personal Information

Date of Birth: 08/09/1980  
Nationality: Iranian  
Marital Status: Married  
Email: nm.dadashi@yahoo.com

## Academic Background

2010 to 2015    Physics and biomedical Engineering Group, Faculty of Medicine  
                    Tehran University of Medical Sciences  
                    Ph.D. Degree in Biomedical Engineering  
Thesis: Adaptive Registration of Endoscopic Videos to MDCT images for Error Systems/Ranked First

2007 to 2010    Physics and biomedical Engineering Group, Faculty of Medicine  
                    Isfahan University of Medical Sciences,  
                    M.Sc. Degree in Biomedical Engineering  
Thesis: Extraction of cardiac motion field from CMRI images using similarity measures. /Ranked First

1999 to 2003    Faculty of Electrical Engineering  
                    Sahand University of Technology,  
                    B.Sc. Degree in Biomedical Engineering  
Thesis: Effects of LASER on human tissue.

1999             Farzanegan High school (SAMPAD)  
                    Tabriz, Iran  
                    Diploma in Physics and Mathematics

## **RESEARCH INTERESTS**

Image and Video Processing, 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.

## **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**

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, accepted, 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 Dadashi Seraj, 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. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.

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

### **Academic Honors**

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.

### **SKILLS**

1. Languages: English, Deutch, Persian.
2. Programming: MATLAB, C++,Open CV.
3. Computer: windows os, Office.

### **WORKSHOPS**

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.

### **Administrative Responsibilities**

1. (2011) Head of Computer software Group, Sepahan Institute of science and technology, Isfahan, Iran.
2. (2009-2011)Head of Robotics group, Sepahan Institute of science and technology, Isfahan, Iran.
3. Member of Scientific Referees of ISCEE conferences.
4. Executive Manager of Journal of Medical Signals and Sensors(JMSS), Medical Image& Signal Processing Research Center, Isfahan University of Medical Sciences

### **Teaching Experiences:**

#### **Graduate Teaching experiences**

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

#### **Under-graduate Teaching experiences**

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