

## **Mohammad Hossein Shakoor C.V.**

### **Education:**

B.Sc. : Hardware Computer Engineering, Shiraz University, Shiraz, Iran (1994-1998).

M.Sc. : Computer Architecture, Isfahan University, Isfahan, Iran (2000-2002).

Ph.D. : Artificial Intelligence and Robotics (Image Processing), Shiraz University, Shiraz, Iran , (2011-2016).

Ph.D. Thesis: *A Novel Method to Extract Features of Texture Images*

Ph.D date: June 13, 2016, Grade: Excellent

### **Research Interests:**

- Image Processing and Machine Vision:
  - *Digital Image Stabilization*
  - *Lung Nodule Detection and Segmentation*
  - *Texture Images Analysis*
  - *Image Matching and Registration*
  - *Image Registration*
- Reverse Engineering
  - *Software Reverse Engineering*
  - *Behavior System Reverse Engineering*
  - *Digital Design and Hardware Reverse Engineering*
- Pattern Recognition
  - *Features Extraction*
  - *Face Recognition*

### **Industrial Experience:**

The senior manager of an industrial private company (in Fars Science and Technology Park) (2002-2013).

### **Industrial Projects:**

Reverse engineering projects

10 projects which are related to reverse engineering of 10 industrial testers for concrete and still industries and vehicle:

Wiring Cable Tester

Sensor Testers (5 Testers)

Digital/Analog Board Tester (2 Testers)

Calibration Board Testers (2 Testers)

Design a HIL (Hardware in the Loop) Test System

Simulator (design 2 simulators, C++, VB, PLC)

Recorder (design some programmable recorder, hardware (RTD computer), software (MATLAB, VB, Lab View)

Image processing projects (Digital Image Tracking, Lung nodule detection, Image Stabilization)

Design and develop 3 industrial projects (RTD computer and its related boards)

Design and develop 2 signal analyzing packages

RTD computer and its Boards

Design a Signal Processing and Plotting Package

Convert 8 Simulation MATABL projects into VC++ programs for Industrial Applications

### **Research Projects:**

Image Stabilization using histogram and fuzzy based methods

Statistical Digital Image Stabilization

Lung Nodule Detection Based on Statistical Methods

Texture Features Extraction for Defeat Detection in Boiler of Electrical Power Instruments

Image Matching and Image Registration by using Local Binary Pattern and Local Descriptors.

## **Academic Activities:**

Instructor at Azad University (2007-2016). Instructor of below courses:

### **Undergraduate Courses:**

- Digital Design
- Computer Architecture
- Data Structure
- Data Saving and Restoring
- Advanced Programming (C++, C)
- Computer Networks
- Numerical Analysis
- Operating Systems
- Fundamental Concepts of Computers
- Discrete Mathematics
- Microprocessors
- English language for Engineering

### **Lab Supervisor:**

- Digital Design
- Computer Architecture
- Microprocessors

### **Graduate Courses:**

- Pattern Recognition
- Image Processing
- Advanced Operating Systems
- Computer Modeling
- Neural Networks
- Evolutionary Computing
- Electronic Banking
- Fuzzy Systems
- Electronic Security of Data

### **MSc Thesis of Computer Science and Image processing (Supervisor):**

- Lung nodule detection based on improved noise robust local binary pattern
- Lung nodule classification based on noise robust local ternary pattern
- A noise Robust Completed Local Ternary Patterns for Texture Classification
- Face Recognition under Illumination Variation using Improved Interlaced Derivative Patterns
- A new Method for shadow detection and removal in digital images

- Improved Particle Swarm Intelligence Approach for Routing in Wireless Sensor Networks
- A Novel Method for Shadow detection and Removal
- A novel Edge-Based method for Image Registration
- Using Local Binary Pattern for Infrared Image Retrieval
- Improved Completed Local Binary Pattern for Seabed Image Classification
- A new Steganography method by Using Low-level Bits of Digital Images
- Dental Cares Detection Based on local Image Descriptors

## Publication Papers:

Radial Mean Local Binary Pattern for texture Classification, MH Shakoor and R. Boostani, Multimedia Tools and Applications , 2017, In Press, Accepted Manuscript.

Noise robust and rotation invariant entropy features for texture classification, MH Shakoor and F Tajeripour, Multimedia Tools and Applications 75 (6), 1-36, 2016

Repeating Average Filter For Noisy Texture Classification, MH Shakoor and F Tajeripour, Sciatica Iranica Journal, 24(3), 2017.

Extended Mapping Local Binary Pattern Operator for Texture Classification, MH Shakoor and R. Boostani, International Journal of Pattern Recognition and Artificial Intelligence, 2017.

A Novel Advanced Local Binary Pattern for Coral Reef Classification, MH Shakoor and R. Boostani, Multimedia Tools and Applications , 2017

A novel mapping method of extended local binary pattern for texture classification, MH Shakoor and F Tajeripour, Iranian Journal of Electrical and Computer Engineering, 2016.

Circular Mean Filtering For Textures Noise Reduction, MH Shakoor and F Tajeripour, Iranian Journal of Electrical & Electronic Engineering 11 (3), 195-203, 2015.

Lung Nodule Segmentation based on Modified Local Binary Pattern, S Soltaninejad, MH Shakoor and F Tajeripour, International Journal of Scientific & Engineering Research 5 (12), 575-586, 2014.

Lung Nodule Detection Based on Noise Robust Local Binary Pattern, MH Shakoor, International Journal of Scientific & Engineering Research 5 (5), 356-362, 2014.

Ontology Development for Student Relationship Management Model, S Gorbani and MH Shakoor, Iranian Student Conference on Electrical Engineering, ISCEE 2013.

Statistical digital image stabilization,

MH Shakoor, M Moattari, Journal of Engineering and Technology Research 3 (5), 161-167, 2011

Digital image stabilization based on variance properties,

MH Shakoor and M Moattari, Knowledge Acquisition and Modeling (KAM), IEEE, 2010 3rd International, 2010.

A new fast method for digital image stabilization,

MH Shakoor and M Moattari, Advanced Computer Theory and Engineering (ICACTE), IEEE, 2010.

Fast digital image stabilization by motion vector prediction,

MH Shakoor and AR Dehghani, Environmental Science and Information Application Technology (ESIAT), IEEE Conf. 2010.

Application of Neural Networks in Direct Torque Control of Induction Motors by Reference Flux Vector Method, M Moattari, SA Beheshtian, R Asad and MH Shakoor, Intelligent Computing and Cognitive Informatics (ICICCI), IEEE, 2010.

A fuzzy method based on bit-plane images for stabilizing digital images,

MH Shakoor and M Moattari, Electronics, Communications and Computer (CONIELECOMP), IEEE, 2010 20th.

Digital image stabilization using histogram-based sorting,

MH Shakoor and M Moattari, Knowledge Acquisition and Modeling (KAM), IEEE Conf., 2nd International 2009.

Local Entropy Pattern for Texture Features Extraction, MH Shakoor and F Tajeripour, Iranian Journal of Machine Vision and Image Processing, 2016.

### **Under Consideration Papers:**

A Novel Low Pass Filter to Texture Noise Reduction for Texture Classification, MH Shakoor and R. Boostani, Iranian Journal of Electrical and Computer Engineering

Radial Mean Local Binary Pattern For Noisy Texture Classification, MH Shakoor and R. Boostani, Pattern Recognition.

Fast Infrared Images Matching Using Local Binary Pattern , MH Shakoor and R. Boostani International Journal of Engineering.

Extracting Lung Tumor Based on Co-Occurrence Matrix of Weighed Orientation of Edges and Local Descriptor, M. H. Shakoor, Iranian Journal of Electrical and Electronic Engineering.

### **Awards:**

Invention of Reverse Engineering Software.

First Degree Khwarizmi Award, An Application Research Project

Select for Final Step of International Inventions Grand Prize (2016)

### **Computer Skills:**

Proficient in C, Watcom C, Visual Basics and Matlab, C++, Visual C++.  
Software Reverse Engineering (Assembly, Watcom C++, C, C++, Visual C++, MATLAB and exe binary)

### **Languages:**

**Persian** (native), **English** (fluent).

### **Miscellaneous activities:**

Calligraphy, Painting,