



School of Computing Science
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Mani Ranjbar

Research Interests

Computer Vision
Image Processing
Robotics
Control

Professional Interests

Computer Vision and Image Processing-Based products
Mixed analog-digital circuits design
Robotics (AI and Control)
Industrial automation and Embedded systems
DSP and Microcontrollers programming
Device drivers programming
Hardware design using HDLs

Journal Publications

2008 M. Ranjbar, S. Kasaei, "Spatial Error Concealment: A Novel Exemplar-Based Approach Using Segmentation," International Journal of Computers and Electrical Engineering, Elsevier, 2008, doi:10.1016/j.compeleceng.2008.08.002

Conference Publications

2010 Mani Ranjbar, Greg Mori, Yang Wang, "Optimizing Complex Loss Functions in Structured Prediction," in Proceedings of the 11th European Conference on Computer Vision (ECCV 2010), Crete, Greece, 2010

- 2010 Bahman Yari Saeed Khanloo, Ferdinand Stefanus, Mani Ranjbar, Ze-Nian Li, Nicolas Saunier, Tarek Sayed, and Greg Mori, "Max-Margin Offline Pedestrian Tracking with Multiple Cues," Seventh Canadian Conference on Computer and Robot Vision (CRV), Ottawa, Ontario, Canada, 2010
- 2009 M. Norouzi, M. Ranjbar, G. Mori, "Stacks of Convolutional Restricted Boltzmann Machines for Shift-Invariant Feature Learning," in Proceedings of Computer Vision and Pattern Recognition, Miami, Florida, USA, 2009
- 2007 M. Ranjbar, S. Kasaei, "Fast and Accurate Image Inpainting Method for Advanced Video Coders," in Proceedings of the 4th IEEE-GCC, Bahrain, 2007
- 2006 M. Ranjbar, S. Kasaei, "Moving Cast Shadow Detection Using Texture Information," in Proceedings of the 12th Annual International CSI (Computer Society of Iran) Computer Conference (CSICC 2006), Tehran, Iran, 2006

Education

- 2008 - Now Proposed Graduation Date: Sep. 2012
Ph.D. Student at School of Computing Science, Simon Fraser University, Burnaby, BC, Canada
GPA: 4.26/4.33
- 2005 - 2007 M.S. in computer engineering/hardware
Department of Computer Engineering, Sharif University of Technology, Tehran, Iran
GPA: 19.08/20
- 2000 - 2005 B.Sc. in computer engineering/hardware
Department of Computer Engineering, Sharif University of Technology, Tehran, Iran
GPA: 17.76/20, Rank 2nd
- 1996 - 2000 High school in National Organization for Development of Exceptional Talents (NODET), Semnan, Iran
GPA: 19.13/20

B.Sc. & M.S. Projects

- 2006 - 2007 Error Concealment for H.264/AVC, Supervisor: Dr. Sh. Kasaei
- 2004 - 2005 Design and implementing a control board for a ROV (Remotely Operated Vehicle), Supervisor: Dr. M. T. Manzuri

Awards and Honors

- 2011 \$6,250 President's PhD Research Stipend from Simon Fraser University
- 2011 \$700 The Gordon, Monica, and Sonia Eppich Graduate Scholarship from Simon Fraser University
- 2010 \$6,250 Graduate Fellowship from Simon Fraser University
- 2009 \$700 Cy and Emerald Keyes Graduate Scholarship from Simon Fraser University
- 2008 \$8,000 MoCCSy Graduate Student Scholarship from IR-MACS at Simon Fraser University
- 2008 \$700 Ralph M. Howatt Family Graduate Scholarship from Simon Fraser University
- 2007 \$10,000 Pacific Century Scholarship from Simon Fraser University
- 2006 6,500,000 Iranian Rials Grant from Iran Telecommunication Research Center for M.S. Thesis
- 2005 2nd place in Universities Entrance Exam (M.S.) among more than 7,500 participants
- 2005 2nd place among B.Sc. students in Computer Engineering Department of Sharif University of Technology
- 1999 Gold medal of Kharazmi International Competition for Inventing an Electromechanical device for blinds
- 1995 3rd place in International Swimming Competition
- 1993 Selected for National Organization for Development of Exceptional Talents (NODET) among 10,000 participants

Service to Academic Community

Paper review for :

European Conference on Computer Vision (ECCV) 2010

British Machine Vision Conference (BMVC) 2010, 2009

Computer Vision and Pattern Recognition(CVPR) 2011, 2010, 2009

International Conference on Computer Vision (ICCV) 2011, 2009

IEEE Workshop on Motion and Video Computing (WMVC) 2009

International Conference of Pattern Recognition (ICPR) 2008

Image and Vision Computing journal (IVC) 2008

Teaching Experience

Spring 2008	Teaching assistant for Introduction to Computer Design, Simon Fraser University
Spring 2006	Teaching assistant for Electric Circuit, Sharif University of Technology
Spring 2006	Teaching assistant for Logic Design, Sharif University of Technology
Spring 2002	Teaching assistant for Pascal Programming, Sharif Univer- sity of Technology
Spring 2002	Teaching assistant for Electric Circuit, Sharif University of Technology

Professional Experience

2003 - 2007 Telephony Circuits design, Tazarv Afzar Company

2003 - 2007 Implementing DSP algorithms such as Fast FSK Genera-
tion/Detection, DTMF Generation/Detection and R1 Gen-
eration on 56309 Motorola DSP, Tazarv Afzar Company

- 2003 - 2007 Detecting Ring, Hook, Pulse Dialing and Hook Flash using MSP430F149 TI microcontroller, Tazarv Afzar Company
- 2003 - 2007 Implementing telephony protocols such as ISDN-PRI User Side and CAS-3Bit on 56309 Motorola DSP, Tazarv Afzar Company
- 2005 - 2006 Design and implementing very low noise data acquisition board for ARIO ROV(Remotely Operated Vehicle), Department of Mechanical Engineering, Sharif University of Technology
- 2005 - 2006 Design and implementing camera controller board for ARIO ROV(Remotely Operated Vehicle), Department of Mechanical Engineering, Sharif University of Technology
- 2004 Design and implementing a PCI card for data acquisition with 24 input channels and 8 output channels and a device driver in Linux, Sharif University of Technology
- 2003 - 2004 Design and implementing a high accurate Computer Numerical Control (CNC) cutter using laser beam

Accomplished Academic Projects

- 2006 Implementing the Master Mind game on FPGA
- 2005 Implementing a digital radio which in one side gets voice data from a PC, modulates it and converts it to an analog signal and on the other side converts it to a digital signal, demodulates it and sends the voice data to another PC
- 2005 Design and implementing a remote ruler using ultrasound signal
- 2004 Design and implementing the control board of a ROV using 56309 Motorola DSP
- 2004 Implementing a graphic card and a simple game as its tester on FPGA
- 2003 Implementing a simple computer with 16 instructions and 4 registers using standard ICs

Programming Languages Familiarities

Visual C++

Borland C

Delphi

Borland Pascal

Matlab

Java

Prolog

AutoLisp

VHDL

Verilog

Assembly of Intel 8086 family

Visual Basic

Assembly of Motorola 56300 family

Assembly of TI MSP430 family

Assembly of MCU51 family