Ivana Mikić

ivana@huntermikic.com (619) 922-2265

SUMMARY

- Experienced computer vision scientist, software developer and manager.
- C++, Matlab, Intel IPP, OpenCV, Windows, Linux

WORK EXPERIENCE

Imaging R&D Manager
11/2008 – Present, Accelrys, San Diego

- Leading a group of engineers responsible for PipelinePilot Imaging Collection, which includes maintenance and development of software tools for computer vision and design of new algorithms for a wide range of image analysis and recognition problems (detection and quantification of phenomena of interest in life, materials and earth sciences, for example, cell based assays, crystal image classification, etc.)
- Designed and implemented the infrastructure for compuer vision inside PipelinePilot scientific informatics platform.

Partner
12/2005 - Present, HMC, San Diego

- Leading the development of Pipeline Pilot Advanced Imaging Collection, a set of advanced tools for computer vision (machine learning algorithms, interest point detection, descriptors, segmentation, etc).
- Managing an international team of engineers.

Profesor Ramón y Cajal
9/2007 – 8/2008, Universidad Autónoma de Madrid, Spain

- Ranked #1 in Computer Science for Ramón y Cajal fellowship (€183,000)

Senior Scientist and Co-Founder
12/2003 – 12/2005, Vala Sciences, San Diego

- Developed computer vision algorithms and designed software for analysis of fluorescent microscopy cell images

Consultant
12/2003 – 12/2005, Beckman Coulter, San Diego

- Designed and developed software for acquisition and analysis of fluorescent microscopy cell images.

Senior Scientist
4/2002 – 12/2003, Q3DM, San Diego

- Developed image analysis algorithms for rapid analysis and quantification of image data acquired using Q3DM high throughput fluorescent microscopy system.
- Redesigned Q3DM image analysis library

Research Assistant
9/1997 – 2/2002, Visual Computing and CVRR Labs, University of California, San Diego

- Human body model acquisition and tracking from multiple video streams
- Intelligent room project: multiple people tracking, camera control based on even recognition, head orientation estimation, GUI for event summarization and replay
- Intelligent transportation project: moving shadow detection
- Intelligent vehicles project: analysis of passenger body posture for modulation of airbag deployment

Software Engineer
9/1996 – 6/1997, Multimedia Group, Motorola, Mansfield, Massachusetts

- Project: TrueStream (streaming video project). Worked on compression, enhancement and error concealment work for both audio and video

Research Assistant
9/1994 – 6/1996, Cardiovascular Imaging Center, Cleveland Clinic Foundation & Ohio State University

- Project: Segmentation and tracking in ultrasound video
- Operated 3D ultrasound equipment during open heart surgeries

EDUCATION

PhD, Electrical and Computer Engineering (GPA 4.0/4.0)
9/1997 – 1/2002, University of California, San Diego

- Thesis title: Human Body Model Acquisition and Tracking using Multi-Camera Voxel Data

MS, Biomedical Engineering (GPA 3.86/4.0)
9/1994 – 7/1996, Ohio State University

- Thesis title: Segmentation and Tracking in Ultrasound Images: Active Contours Guided by Optical Flow Estimates

BS, Electrical Engineering (Control and Electronics) (GPA 9.07/10.0)
9/1989 – 7/1994, Belgrade University

- Thesis title: A System for Functional Electrical Stimulation of a Paraplegic Hand

PROFESSIONAL ACTIVITIES

Reviewer

IEEE Trans. PAMI, IJCV, IEEE Trans. Image Processing, Signal Processing Letters, EURASIP Journal on Applied Signal Processing, IEEE Trans. Systems, Man, Cybernetics, Machine Vision Applications and several conferences and workshops

Program committee member

PHI '05 – International Worshop on Modeling People and Human Interaction (in conjunction with ICCV), FG'08 – IEEE International Conference on Automatic Face and Gesture Recognition

PUBLICATIONS

Journal Articles

- NL Prigozhina, L Zhong, EA Hunter, I Mikić, S Callaway, DR Roop, MA Mancini, DA Zacharias, JH Price, PM McDonough, "Plasma membrane assays and three-compartment image cytometry for high content screening," Assay and Drug Development Technologies, 5(1):29-48, 2007
- I. Mikić, S Planey, J Zhang, C Ceballos, T Seron, B v. Massenbach, R Watson, S Callaway, PM McDonough, JH Price, EA Hunter, D Zacharias, "A live-cell, image based approach to understanding the enzymology and pharmacology of 2-bromopalmitate and palmitoylation," Methods in Enzymology, 414:150-87, 2006.
- Marcelli,, D. L. Stenoien, A. T. Szafran, S. Simeoni, I. U. Agoulnik, N. L. Weigel, T. Moran, I. Mikić, J. H. Price, M. A. Mancini, "Quantifying effects of ligands on androgen receptor nuclear translocation, intranuclear dynamics and solubility", Journal of Cellular Biochemistry, Jan. 2006
- W. Li, S. K. Chanda, I. Mikić, C. A. P. Joazeiro, "Methods for the functional genomic analysis of ubiquitin ligases", Methods in Enzymology, vol. 398, 2005

- M. M. Morelock, E. A. Hunter, T. J. Moran, S. Heynen, C. Laris, M. Thieleking, M. Akong, I. Mikić, S. Callaway, D. Zacharias, J. H. Price, "Statistics of assay validation in high throughput cell imaging of nuclear factor kappaB nuclear translocation ", Assay and Drug Development Technologies, Oct. 2005
- P. McDonough, S. Callaway, I. Mikić, E. Hunter, J. Price, "Monitoring Activation of Protein Kinase C alpha", *Drug Discovery*, vol 26, no 6, March 2005
- M. M. Trivedi, K. S. Huang, I. Mikić, "Dynamic Context Capture and Distributed Video Arrays for Intelligent Spaces", *IEEE Trans. on Systems, Man and Cybernetics*, Part A, Volume: 35, Issue: 1, Jan. 2005
- I. Mikić, M. Trivedi, Edward Hunter, Pamela Cosman, "Human Body Model Acquisition and Tracking using Voxel Data", *International Journal of Computer Vision*, vol 53, no 3, July/August 2003
- A. Prati, I. Mikić, M. Trivedi, R. Cucchiara, "Detecting Moving Shadows: Formulation, Algorithms and Evaluation", *IEEE. Trans. Pattern Analysis and Machine Intelligence*, vol. 25, no. 7, July 2003
- I. Mikić, S. Krucinski, J. D. Thomas: "Segmentation and tracking in echocardiographic sequences: active contours guided by optical flow estimates", *IEEE Trans. Medical Imaging*, vol 17, no 2, April 1998

Conference Papers

- I. Mikić, M. Trivedi, E. Hunter, P. Cosman, "Articulated Body Posture Estimation from Multi-Camera Voxel Data", *IEEE International Conference on Computer Vision and Pattern Recognition, Kauai*, Hawaii, December 2001
- A. Prati, R. Cuchiara, I. Mikić, M. Trivedi, "Analysis and Detection of Shadows in Video Streams: A Comparative Evaluation", *IEEE International Conference on Computer Vision and Pattern Recognition, Kauai*, Hawaii, December 2001
- A. Prati, I. Mikić, C. Grana, M. Trivedi, "Shadow detection algorithms for traffic flow analysis: a comparative study", *IEEE International Conference on Intelligent Transportation Systems*, Oakland, California, August 2001
- I. Mikić, K. Huang, M. Trivedi, "Activity monitoring and summarization for intelligent environments", *Workshop on Human Motion*, Austin, Texas, December 2000
- M. Trivedi, K. Huang, I. Mikić, "Intelligent Environments and Active Camera Networks", *IEEE Systems, Man and Cybernetics*, October 2000
- M. Trivedi, I. Mikić, G. Kogut, "Distributed video networks for incident detection and management", *IEEE Conference on Intelligent Transportation Systems*, Dearborn, Michigan, October 2000
- I. Mikić, P. Cosman, G. Kogut, M. Trivedi, "Moving shadow and object detection in traffic scenes," *International Conference on Pattern Recognition*, Barcelona, Spain, September 2000
- M. Trivedi, I. Mikić, S. Bhonsle: "Active Camera Networks and Semantic Event Databases for Intelligent Environments", *IEEE Workshop on Human Modeling, Analysis and Synthesis* (in conjunction with CVPR), Hilton Head, South Carolina, June 2000
- I. Mikić, S. Santini, R. Jain: "Tracking Objects in 3D using Multiple Camera Views", *Asian Conference on Computer Vision*, Taipei, Taiwan, January 2000
- I. Mikić, S. Santini, R. Jain: "Video processing and integration from multiple cameras", *Image Understanding Workshop*, Morgan-Kaufman, San Francisco, 1998
- I. Mikić, S. Krucinski, J. D. Thomas: "Segmentation and tracking of mitral valve leaflets in echocardiographic sequences: active contours guided by optical flow estimates", *SPIE International Conference on Medical Imaging*, Newport Beach, California, February 1996

Patents

- I. Mikić, M. Trivedi, E. Hunter, P. Cosman, "Method and Apparatus for Body Modeling and Movement Analysis" (UCSD)
- Hunter, EA, PM McDonough, I Mikić, JH Price, "System, Method and Kit for Processing a Magnified Image of Biological Material to Identify Components of a Biological Object", (Vala Sciences)