Behjat Siddiquie

CONTACT INFORMATION

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EDUCATION

University of Maryland, College Park, MD, USA
PhD, Computer Science, October 2011
Master of Science, Computer Science, May 2009

Indian Institute of Technology - Bombay, Mumbai, India
Bachelor of Technology, Computer Science, May 2006

SPECIALITIES

Computer Vision, Machine Learning, Image/Video Analytics and Audio Processing

EXPERIENCE

Amazon, Seattle, WA, USA (May 16 - present)
Research Scientist
Computer vision research for launching and scaling up of **Amazon Go**, a no checkout grocery store. Working on deep learning based tracking, object detection, object segmentation and person identification.

SRI International, Princeton, NJ, USA (Oct. 11 – May 16)
Senior Computer Scientist (Mar. 15 – May 16)
Computer Scientist (Oct. 11 – Mar 15)
Worked on several CV/ML projects, in various roles, including as a co-Principal Investigator and a Tech. Lead. Selected projects involved real-time human behavior recognition and interaction modeling using multimodal sensors, and on using image analytics to enhance social media based security applications. Co-authored grants and proposals that received over $2M in research funding from agencies such as DARPA, ONR and AFRL.

University of Maryland, College Park, MD, USA (Aug. 06 – Oct. 11)
Graduate Research Assistant (Advisor: Prof. Larry S. Davis)
Performed research in a number of areas in CV/ML, leading to publications in top tier computer vision conferences. Selected projects include:
- PhD Thesis: Image Retrieval based on Complex and Descriptive Queries.
- Active, Online and Incremental learning for visual scene understanding.
- Scene Understanding, Object recognition and Image Classification.
- Activity recognition in high, medium and low resolution video.

IBM T.J. Watson Research Center, Hawthorne, NY, USA (Jun. 10 – Dec. 10)
Research Intern
- Image ranking and retrieval based on multi-attribute queries.
- View-invariant real-time vehicle detection system for traffic surveillance cameras.

Sarnoff Corporation, Princeton, NJ, USA (June 09 – Aug. 09)
Research Intern
- Implemented a stereo based real-time gesture recognition system.

CERTIS, École Nationale des Ponts et Chaussées, Paris, France (Summer 05)
Research Intern
- Fast background subtraction on GPUs.

SELECTED PUBLICATIONS

M. Amer, T. Shields, **B. Siddiquie**, A. Tamrakar, A. Divakaran and S. Chai, **Deep Multimodal Fusion: A Hybrid Approach**, **(IJCV)** 2017.

B. Siddiquie, B. White, A. Sharma and L. S. Davis, **Multi-Modal Image Retrieval for Complex Queries using Small Codes**, (ICMR) 2014.

M. Amer, **B. Siddiquie**, C. Richey and A. Divakaran, **Emotion Detection in Speech using Deep Networks**, ICASSP 2014.

R. Feris, **B. Siddiquie**, J. Petterson, Y. Zhai, A. Datta, L. Brown and S. Pankanti, **Large-Scale Vehicle Detection, Indexing, and Search in Urban Surveillance Videos**, IEEE Transactions on Multimedia, 2012.

B. Siddiquie, R. Feris and L. S. Davis, **Image Ranking and Retrieval Based on Multi-Attribute Queries**, **(CVPR)** 2011, **(Oral).**

B. Siddiquie and A. Gupta, **Beyond Active Noun Tagging: Modeling Contextual Interactions for Multi-Class Active Learning**, **(CVPR)** 2010, **(Oral).**

A. Kembhavi, **B. Siddiquie**, R. Miezianko, S. McCloskey and L. S. Davis, **Incremental Multiple Kernel Learning for Object Recognition**, **(ICCV)** 2009.

PATENTS

Image Ranking Based on Attribute Correlation, (IBM), 8,903,198; 9,262,445.
Object Detection in Crowded Scenes, (IBM), 8,811,663.
Video based Detection of Multiple Object Types under Varying Poses, (IBM), 8,620,026.
Multi-View Object Detection using Appearance Model Transfer from Similar Scenes, (IBM), 8,498,448; 8,983,133; 9,224,046.
Multi-Modal Modeling of Temporal Interaction Sequences, (SRI), 9,734,730.
Dynamic hybrid models for multimodal analysis, (SRI), 14/631,124.
Recognizing salient video events through learning-based multimodal analysis of visual features and audio-based analytics, (SRI), 14/846,318.
Exploiting multi-modal affect and semantics to assess the persuasiveness of a video, (SRI), 14/874,348.

INTERNS MENTORED

Wei Li, (PhD student, CUNY), Fall 2015
Dave Chisholm, (PhD student, Columbia University), Summer 2014
Mohamed Amer, (PhD student, Oregon State University), Summer 2013

HONORS and AWARDS

- IBM First Patent Application Invention Achievement Award. (2011)
- PhD thesis proposal selected for the Doctoral Consortium at CVPR 2010.
- Block Fellowship, University of Maryland, College Park. (2006-2008)

COMPUTER SKILLS

Platforms: Linux, Windows
Languages: C\C++, MATLAB, Python
Packages: Tensorflow, Caffe, Keras, MXNet, OpenCV, OpenSMILE
Tools: CMake, Git

CITIZENSHIP

Indian, O-1 Visa