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Personal Highlights

- Two time summer internship experience in Business Intelligence department at Blizzard Entertainment. Designed and implemented Machine Learning systems used in production.
- Five years of research experience in data mining and machine learning. Topics include Natural Language Processing (NLP) in business decisions, video-based facial expression recognition and face recognition, face registration, person re-identification, 3-D error modeling.
- Championship award in the international competition on facial expression analysis in 2011; Best Paper award in the world-class international conference in 2013. Government award for outstanding research performance in 2013.
- Founder and Lead Developer for two startup companies.

Education

- **University of California Riverside** — Riverside, CA
  Ph.D. Electrical Engineering — *Sep 2009 - May 2014(Expected)*
  - Relevant courses: Data Mining, Machine Learning, Computer Vision
  - Automatic recognizing spontaneous human facial expressions in uncontrolled environment requires overcoming many obstacles including in-plane and out-of-plane head pose rotation, misalignment, varying illumination conditions, and etc. I solve these problems by a novel face alignment method and a meaningful image representation. These strategies are demonstrated to be generalizable to areas such as face recognition, person re-identification, and other real-world scenarios.
- **Sichuan University** — Chengdu, China
  B.S. Electrical Engineering — *Sep 2005 - Jun 2009*
  - Graduated from Wu Yuzhang Honor College, consisted of top 100 students out of 10,000
  - GPA: 3.62, Rank: **3/100**
- **Eastern New Mexico University** — Portales, NM
  B.S. Computer Science, B.S. Electronic Engineering Technology — *Jan 2007 - Dec 2008*
  - CS: GPA: 3.9 , Rank: **1/47**
  - EET: GPA: 4.0 , Rank: **1/53**

Technical Skills

- Programming Languages and Packages
  - C++, Python, SQL
  - MATLAB, numpy, scipy, Google App Engine, Tweeter Bootstrap
  - HTML5, CSS3, coco2d-x
- Data Mining and Machine Learning
  - Modeling tasks: regression, classification, clustering, anomaly detection
  - Predictive models: Nearest Neighbor, Logistic Regression, Neural Network, Support Vector Machine, Auto-encoder
  - Evaluation methodologies: cross validation, receiver operation characteristic plot, confusion matrices, F-measures
  - Advanced techniques: Deep Learning, Recommender system, Large Scale Machine Learning
- Computer Vision
  - Image segmentation, feature extraction, object detection, tracking, recognition, matching, image registration, image transformation

Work, Research, and Project Experience

- **Predictive Analytics for Business Intelligence** Blizzard Entertainment
  Predictive Analytics Intern *Jun 2013 - Sep 2013*
  - Develop data-driven solutions to understand key business behaviors, such as player acquisition, retention, and winback. Work independently as a professional modeler to design and construct statistical models to forecast key metrics. Work closely with executives and team leads to provide insight into game and business data.
- **NLP and Text Mining for Business Intelligence** Blizzard Entertainment
  Predictive Analytics Intern *Jun 2012 - Sep 2012*
  - Designed and implemented systems that apply Machine Learning and Natural Language Processing (NLP) techniques to solve real-world problems for Business Intelligence department. Python and MATLAB related packages are extensively used for development. The systems that I have developed have been successfully incorporated in products and service, creating values for the company.
- **Video-based Facial Expression Recognition** UC Riverside
  Graduate Student Researcher *Jan 2010 - Jun 2012*
  - Proposed an image representation, Emotion Avatar Image (EAI), for facial expression recognition. EAI not only captures the muscle motion, but also aligns faces in a meaningful manner.

- **Facial Expression Analysis for Advertisement Evaluation** UC Riverside
  Graduate Student Researcher *Dec 2012 - Present*
  - Proposed an expression-based metric for online commercial analysis. Evaluating the effectiveness of a commercial is difficult due to lack of metrics. We predict the engagement of audiences by analyzing their expressions.
- **Face Alignment for Facial Action Unit Recognition** UC Riverside
  Graduate Student Researcher *Jun 2011 - Dec 2012*
  - Action Units are the fundamental actions of individual facial muscles or groups of muscles. We proposed a video-based face alignment technique that registers face image, retains non-rigid muscle motion, and guarantees temporal smoothness of the images.
- **Person Re-Identification** UC Riverside
  Graduate Student Researcher *Nov 2012 - Jun 2013*
  - Person re-identification refers to recognizing people across non-overlapping cameras at different time and\or locations. We propose a reference-based method to overcome obstacles including variations in pose, illumination conditions, background, and occlusions.
- **Video-based Face Recognition** UC Riverside
  Graduate Student Researcher *Feb 2012 - Sep 2012*
  - Applied our image representation strategy for face recognition.
- **Error Model for Scene Reconstruction from Motion and Stereo** UC Riverside
  Graduate Student Researcher *Sep 2009 - Apr 2010*
  - Examined the classical perspective camera model, and analytically model the uncertainty in the reconstruction of 3D position of a scene.
- **Social Network Website Development** Fanagoal.com
  Founder, Chief Developer *Sep 2012 - Apr 2013*
  - Lead a team of three to develop an SNS website to help users share plans and achieve goals.
- **Mobile Game Development** FourDudes Inc.
  Co-Founder, Chief Developer *Jul 2013 - Present*
  - Employed a cross-platform engine, cocos2d-x, for mobile game development.

Awards & Honors

Government Award for Outstanding Researcher from China Scholarship Council 2013
Best Paper Award for IEEE International Conference on AVSS 2013
Best-Entry Award for IEEE International Competition on Facial Expression Data Analysis . 2011
Second-Place Award for International Competition on Visual Emotion Data Analysis 2011
Dean's Fellowship from UC Riverside 2009
Star for Academics from ENMU 2008
Outstanding Paper from ENMU Student Research Conference 2008

Publications (available at `www.ee.ucr.edu/~syang`)

Book Chapters

1) L. An, B. Bhanu, S. Yang, *Unified Face Representation for Individual Recognition in Surveillance Videos*. Augmented Vision and Reality, Springer Berlin Heidelberg (2013).

Journal Articles

1) S. Yang and B. Bhanu, *Understanding Discrete Facial Expressions in Video Using an Emotion Avatar Image*. IEEE Transactions on System, Man, and Cybernetics Part B (2012).

Conference Proceedings

1) L. An, M. Kafai, S. Yang, B. Bhanu, *Reference-Based Person Re-Identification*. IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS) (2013). **Best Paper Award**

2) L. An, X. Chen, M. Kafai, S. Yang, B. Bhanu, *Improving Person Re-Identification by Soft Biometrics Based Reranking*. ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC) (2013).

3) S. Yang, B. Bhanu, L. An, and N Thakoor, *Improving Action Units Recognition Using Dense Flow-based Face Registration in Video*. IEEE International Conference on Automatic Face Gesture Recognition (FG (2013).

4) L. An, B. Bhanu, S. Yang, *Boosting Face Recognition in Real-World Surveillance Videos*. IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS) (2012).

5) L. An, B. Bhanu, S. Yang, *Face recognition in multi-camera surveillance videos*. IEEE International Conference on Pattern Recognition (ICPR) (2012).

6) A. Cruz, B. Bhanu, and S. Yang, *A Psychologically-inspired Match-score Fusion Model for Video-based Facial Expression Recognition*. International Conference on Affective Computing and Intelligent Interaction (2011).

7) S. Yang, and B. Bhanu, *Facial Expression Recognition Using Emotion Avatar Image*. IEEE International Conference on Automatic Face Gesture Recognition Competition on Facial Expression Recognition and Analysis Challenge (2011).

8) S. Yang, B. Bhanu, A.I. Mourikis, *Error Model for Scene Reconstruction from Motion and Stereo*. IEEE Conference on Computer Vision and Pattern Recognition workshop on Three Dimensional Information Extraction for Video Analysis and Mining (2010).

Professional Activities

- Invited Talk on NSF IGERT colloquium (2011)
- Reviewer for Elsvier Journal of Pattern Recognition (2011 - Present)
- Reviewer for IEEE Conference on Automatic Face and Gesture Recognition (2011)
- Reviewer for IEEE Conference on Advanced Video and Signal-Based Surveillance (2010)
- Reviewer for International Conference on Pattern Recognition (2010, 2012)