Ajjen Joshi

http://cs-people.bu.edu/ajjendj
ajjendj@bu.edu | 860-501-8468

Area of Specialization

Analysis of spatio-temporal human signals using computer vision and machine learning

Education

Boston University, Boston, MA

Ph.D. student, Computer Science — *expected May 2018*

- Advisors: Dr. Margrit Betke and Dr. Stan Sclaroff

M.S., Computer Science — Aug 2014

- Thesis: *A Random Forest Approach to Segmenting and Classifying Gestures*
- Advisors: Dr. Margrit Betke and Dr. Stan Sclaroff
- GPA: 3.9/4.0

Connecticut College, New London, CT

B.A., Computer Science and Architectural Studies (Double Major) — May 2012

- Minor in Mathematics and Certificate in Arts and Technology
- Thesis: *Real-time Facial Animation by Gesture Imitation*
- Advisor: Dr. Ozgur Izmirli
- GPA: 3.96/4.0 *Summa Cum Laude*

St. Xavier's School, Kathmandu, Nepal

High School Diploma — May 2007

- Rank: 1/108

Work Experience

Adobe Creative Technologies Lab | Cambridge, MA
Research Intern — Summer 2016

- Explored a deep learning approach to automatically generate inbetween frames in 2D handdrawn animations. Advised by Masha Shugrina

Disney Research | Cambridge, MA
Research Intern — Summer 2015

- Implemented prototype system for performing gesture recognition from glove sensor data and explored development of subject-specific hierarchical Bayesian classifiers. Advised by Dr. Hanspeter Pfister, Dr. Soumya Ghosh

Brown University | Providence, RI
Research Intern — Summer 2011

- Created interactive multimedia installations in Max/MSP/Jitter using the Microsoft Kinect. Advised by Dr. Todd Winkler.

Ammerman Center for Arts and Technology | New London, CT
Animation and Motion Capture Technician — Fall 2010 - Spring 2012

- Assisted and mentored students in computer animation and motion capture projects.

Research Experience + Publications

[1] Ajjen Joshi, Masha Shugrina, Margrit Betle. **DeepTween: A Data-driven Approach to Automatic Inbetweening in HandDrawn Animation**. *Current.*

[2] Ajjen Joshi, Soumya Ghosh, Hanspeter Pfister. **Hierarchical Bayesian Neural Networks for Personalized Gesture Recognition**. *Current.*

[3]Ajjen Joshi, Linda Tickle-Degnen, Sarah Gunnery, Terry Ellis, Margrit Betke. **Predicting Active Facial Expressivity in People with Parkinson's Disease**. International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), 2016. *Oral.*

[4] Ajjen Joshi, Camille Monnier, Margrit Betke, Stan Sclaroff. **Comparing Random Forest Approaches to Segmenting and Classifying Gestures**. Image and Vision Computing (IMAVIS), 2016.

[5] Andrew Kurauchi, Wenxin Feng, Ajjen Joshi, Carlos Morimoto, Margrit Betke. **EyeSwipe: Dwell-free Text Entry Using Gaze paths**. ACM Conference on Human Factors in Computing Systems (CHI), 2016. *Oral.*

[6] Huy Le, Ajjen Joshi, Margrit Betke. **b3.js: A Library for Interactive Virtual Reality Web 3D Graphs**. IEEE Virtual Reality (VR), 2016. *Research Demo.*

[7] Ajjen Joshi, Camille Monnier, Margrit Betke, Stan Sclaroff. **A Random Forest Approach to Segmenting and Classifying Gestures**. IEEE International Conference on Automatic Face and Gesture Recognition (AFGR), 2015. *Oral.*

[8] Ajjen Joshi, Bridget Baird, Ozgur Izmirli. **Developing a Tool for Dance Motion Synthesis**. Biennial Symposium on Arts and Technology, 2012. *Oral.*

Teaching Experience

Teaching Fellow

- Image and Video Computing (Graduate course in computer vision) Fall 2014
  Rating: 4.82/5 (rated by 22 students)
- Application Programming (Introductory course in programming) Fall 2013
  Rating: 4.43/5 (rated by 44 students)
- 3D Game Design (Introductory course in game design) Spring 2013

Honors and Awards

NSF PETRA Doctoral Consortium Award (2016), Boston University Computer Science Outstanding Teaching Fellow Award (2015), Phi Beta Kappa (2012), Architectural Studies Award for Outstanding Senior (2012), Winthrop Scholar, Connecticut College's highest academic honor (2011), Recipient of Keck Research Grant (2010)

Skills

Programming

- Java, Python, C++, Matlab, HTML/CSS, JavaScript, PHP, MySQL, Processing

Other

- **Deep Learning Libraries:** Caffe, TensorFlow; **Animation and Motion Capture:** Autodesk Maya, Motionbuilder; Blender; **Design:** Adobe Photoshop, Illustrator, InDesign; **Film:** Adobe Premiere, FinalCut