Meera S. Hahn

meerahahn@gatech.edu | (206) 450-8576 | www.meerahahn.net

Research Interests

I am interested in studying human activity understanding by the use of deep networks and exploring how to harness linguistic information to assist in visual learning tasks.

Education

Georgia Institute of Technology **2016 - Present**

PhD in Computer Science, School of Interactive Computing

Presidential PhD Fellow of Georgia Institute of Technology

Advisor: James M. Rehg

Emory College of Emory University **2012 - 2016**

Bachelor of Science in Computer Science and Mathematics

Major GPA: 3.9/4.00, Summa Cum Laude

Technical Reports & Publications

- "Action2Vec: A Crossmodal Embedding Approach to Action Learning" **M. Hahn**, A. Silva, J. M. Rehg. Submitted to BMVC 2018.
  http://www.meerahahn.net/files/action2vec2018.pdf
- "Learning to Localize and Align Fine-Grained Actions to Sparse Instructions" **M. Hahn**, N. Ruiz, J. Alayrac, I. Laptev, J. M. Rehg. Submitted to ECCV 2018.
  http://www.meerahahn.net/files/align2017.pdf
- "Situated Bayesian Reasoning Framework for Robots Operating in Diverse Everyday Environments" A. Daruna, V. Chu, W. Liu, **M. Hahn,** P. Khante, S. Chernova, A. Thomaz. Georgia Institute of Technology. Accepted to the International Symposium on Robotics Research 2017 and AAAI 2018.
  http://www.meerahahn.net/files/ISRR_2017.pdf
- "Advances in Methods and Evaluations for Distributional Semantic Models using Computational Lexicons." **M. Hahn** and J. Choi. Emory University Honors Thesis (2016). Received Highest Honors.
  http://pid.emory.edu/ark:/25593/rj67f
- "Deep Tracking: Visual Tracking Using Deep Convolutional Networks". Center for Research in Computer Vision, The University of Central Florida (2015). **M. Hahn**, S. Chen, and A. Deghan.
  Accepted to Grace Hopper Celebration student poster session and ACM student research competition.
  https://arxiv.org/abs/1512.03993

Academic Honors

- Presidential PhD Fellowship at Georgia Institute of Technology **2016 - 2020**
- Highest Honors on Emory Thesis **2016**
  - Thesis was on improvements in the Word Embedding system, Advisor was Dr. Jinho Choi
- Emory Honors Program: nominated & selected **2015 - 2016**
  - Program involves a written thesis, thesis defense, a GPA above 3.5 and graduate coursework
- Computing Research Association – Women Graduate Workshop travel grant recipient **2017**
- Anita Borg Scholarship recipient: travel grant to attend the Grace Hopper Celebration **2015**
- Emory Honor List & Emory Merit List **2012 - 2016**

Research Experience

Computational Perceptional Laboratory of Georgia Institute of Technology **2016 - Present**

Graduate Research Assistant, Advisor: Dr. James M. Rehg

- Working at the intersection of language and vision with the goal of improving activity understanding.
- Worked on video to text alignment project that focuses on action proposal and harnesses features that are intrinsic to first person vision datasets. Planning on submitting this work to ECCV 2018.
- Worked as a part of a Simmons Foundation funded project to monitor and track the progression of autism: Worked on an eye contact and gaze prediction system.

Robot Autonomy and Interactive Learning Lab of Georgia Institute of Technology **2016 - 2017**

Graduate Research Assistant, Principle Investigator: Dr. Sonia Chernova

- Worked on learning from visual demonstration. Project integrates real-time action and object detection, and robotic task planning.

Natural Language Processing Research Lab of Emory University **2014 - 2016**

Research Assistant and Thesis Research, Advisor: Dr. Jinho Choi

- Research done in year 2015- 2016 was Honor's Program senior thesis.
- Worked on a novel approach to word embedding that accounted for sentence dependency structure.
- Used distributional semantics, dependency tree parsing and neural networks in above project.
- Worked on improving the Emory NLP toolkit's Named Entity Recognition system.

NSF Fellow: Research Experience for Undergraduates, University of Central Florida **Summer 2014**

REU fellow at Center for Research in Computer Vision, Principle Investigator: Dr. Mubarak Shah

- Created a new object tracking system that used deep learning for feature extraction.
- Designed and implemented the system using a parallel Convolution Neural Networks to handle both appearance and motion of the target.
- Introduced a novel approach to handling an object scale change using features of the CNN.

Industry Experience

NEC Laboratories America **Summer 2018**

Research Intern, Principle Investigators: Dr. Asim Kadav and Dr. Hans Peter Graf

- Working on spatio-temporal localization of actions and activities using natural language descriptions.

Amazon Fulfillment Technologies **Summer 2016**

Research and Development Intern, Managers: Dr. Marshall Tappen and Jonathan Dughi

- Developed and deployed a shape classification system.
- Used point cloud images to determine shape of a item and determined if item was in a ship-safe container.

Amazon Supply Chain Optimization Technology Team **Summer 2015**

Software Development Engineer Intern

- Developed and deployed an AB Testing framework to ensure optimality of new versions of code.

Leadership and Community Engagement

Women In Computing at Emory **2015 - 2016**

President and Founder

- This club is a subsidiary of HACK Emory and gives seminars through out the year on opportunities for Women In Computing, also serves as a place for women in tech at Emory to network.