

# Sashank Santhanam

Department of Computer Science  
University of North Carolina at Charlotte  
9201 University City Blvd, Charlotte, NC - 28223  
[ssantha1@uncc.edu](mailto:ssantha1@uncc.edu) • (267) 575-6385

## Education

### University of North Carolina – Charlotte

#### Ph.D. in Computer Science

Charlotte, NC  
expected May 2021

- Research area: Dialogue Systems, Human Behavior Modeling
- Advisors: Dr. Samira Shaikh
- Committee: Dr. Wlodek Zadrozny, Dr. Minwoo Jake Lee, Dr. Nicholas Davis

### University of North Carolina – Charlotte

#### MS in Computer Science

Charlotte, NC  
Dec 2015

- Research area: Social Media Analysis
- Advisors: Dr. Shaoting Zhang

### Anna University

#### BE in Computer Science and Engineering

Tamil Nadu, India  
May 2014

- Research area: Bayesian Networks

## Conference Publications

- 12) **Santhanam S.**, Shaikh, S., "Modeling Conversation Context by Adapting Cognitive Architectures", in 1st Workshop on Discourse Structure in Neural NLG 2019, Tokyo, Japan
- 11) **Santhanam S.**, Lee M., Shaikh, S., "Towards Understanding the Importance of Relationships between Speakers for Dialogue Generation", [Under Review]
- 10) **Santhanam S.**, Shaikh, S., "Emotional Neural Language Generation Grounded in Situational Contexts", in 4th Workshop on Computer Creativity in Natural Language Generation 2019, Tokyo, Japan
- 9) **Santhanam S.**, Shaikh, S., "Towards Best Experiment Design in Evaluating Dialogue System Output", in 12th International Natural Language Generation Conference 2019, Tokyo, Japan
- 8) Srinivasan V., **Santhanam S.**, Shaikh, S., "Natural Language Generation Using Reinforcement Learning with External Rewards", in 18th IEEE International Conference on Machine Learning and Applications - ICMLA 2019, Boca Raton, Florida
- 7) **Santhanam S.**, Shaikh, S., "Salient Context Identification from Memory for Neural Dialog Systems", [Under Review, 2019]
- 6) Wesslen, R., **Santhanam, S.**, Karduni, A., Cho, I., Shaikh, S., Dou, W., "Investigating Effects of Visual Anchors on Decision-Making about Misinformation", in 21<sup>st</sup> International IEEE Conference on Visualization (EuroVis), Porto, Portugal, to appear,
- 5) Karduni, A., Cho, I. Wesslen, R., **Santhanam, S.**, Volkova, S., Arendt, D., Shaikh, S., Dou, W., "Vulnerable to Misinformation? Verifi!", in 24<sup>th</sup> ACM Conference on Intelligent User Interfaces, Los Angeles, USA, Mar. 16-20 2019,
- 4) Karduni, A., Wesslen, R., **Santhanam, S.**, Cho, I., Volkova, S., Arendt, D., Shaikh, S., Dou, W., "Can You Verifi This? Studying Uncertainty and Decision-Making about Misinformation in Visual Analytics", in 12<sup>th</sup> International AAAI Conference on Web and Social Media, Stanford, USA, Jun. 25-28 2018, (**Acceptance Rate: 16%**)
- 3) **Santhanam S.**, Srinivasan, V., Glass, S., Shaikh, S., "I Stand With You: Using Emojis to Study Solidarity in Crisis Events", in Proceedings of 1<sup>st</sup> International Workshop on Emoji

Understanding and Applications in Social Media (ICWSM), Stanford, USA, Jun. 25-28 2018, published by AAAI.

2) **Santhanam S.**, Shaikh, S., "I Stand With You: Detecting and Characterizing Expressions of Solidarity in Social Media", in 4<sup>th</sup> International Conference on Computational Social Science (IC2S2), Chicago, USA, July. 12-15 2018.

1) Cho, I., Wesslen, R., Karduni, A., **Santhanam, S.**, Shaikh, S., Dou, W., "The Anchoring Effect in Decision-Making with Visual Analytics", in 12<sup>th</sup> International IEEE Conference Visual Analytics Science and Technology, Phoenix, Arizona, Oct. 1-6 2017, (**Acceptance Rate**: 22% - 25%)

### Poster Presentations

3) **Santhanam S.**, Shaikh, S., "Salient Context Identification from Memory for Neural Dialog Systems", in 2<sup>nd</sup> Southern Data Science Conference, Atlanta, USA, Apr. 13-14 2019.

2) Dalton, A., Zema, A., Masoumzadeh, A., Bhatia, A., Dorr, B., Mather, B., Hebenstreit, B., Al-Shaer, E., Khoja, E., Castillo, E.J., Bunch, L., Vlahovic, M., Liu, P., Pirolli, P., Shah, R., Cartacio, S., Shaikh, S., **Santhanam S.**, Dhaduvai, S., Strzalkowski, T., Karimi, Y., "Modeling Social Engineering Risk using Attitudes, Actions, and Intentions Reflected in Language Use", in 32<sup>nd</sup> International FLAIRS Conference, Florida, USA, May. 19-22 2019. [Alphabetical Ordering]

1) **Santhanam S.**, Shaikh, S., "Propaganda or Clickbait? Understanding and Classifying Types of Misinformation using Recurrent Neural Networks", in 1<sup>st</sup> Southern Data Science Conference, Atlanta, USA, Apr. 13-14 2018.

### Press Coverage

1) **Santhanam S.**, Shaikh, S., "[Understanding the emoji of solidarity](#)", in The Conversation, July 16, 2018

### Research Experience

**University of North Carolina – Charlotte**

Charlotte, NC

**Ph.D. Candidate**

#### Conversational Agents

- Creating conversational agents that adapt standard model of cognition.
- Relationship modeling and understanding its importance in dialogue systems along with incorporating personality to dialogue systems.
- Producing emotional messages and engaging countermeasures strategies for social engineering and phishing attacks. [DARPA Grant]
- Engage in a conversation with attacker to solicit information by moving all the kill chain phases. [DARPA Grant]

#### Collaborative Drawing

- Creating collaborative drawing interface that allows users to interact with an agent and create a sketch drawing.
- Integrate a conversational agent to the interface that adapts itself to the personality of the user

#### Human Behavior Modeling

- Analysis of Twitter and Gab.com to understand how the online community comes together to express messages of solidarity through text and emojis
- Cross-platform analysis on Twitter and Gab.com for abusive language through various crisis events.

#### Understanding Decision Making

- Evaluating the impact of anchoring and confirmation bias on decision making through visual analytics tasks on misinformation.

- Evaluating the impact of cognitive biases and experiment design towards conversational dialogue evaluation

## Professional Experience

### Walmart, Global Shared Service Data Analyst

Charlotte, NC  
2015 – 2016

- Developed software to help the associates at Walmart to process invoices and other receipts.
- Reduced workload of the associates by auto-matching invoices and the receipts.
- Developed workflows in Alteryx and dashboards using Tableau to help in tracking of the backlogs.

### Indian Institute of Technology, Madras Intern

Tamil Nadu, India  
2015 – 2016

- Mentor: Dr. Saji K. Matthew
- Implemented a scoring algorithm in R to analyze the emotional variation on Twitter data during sporting events

## Awards

Visual Dialog - Best Project Award  
Conversational International Summer School

Lowell, MA  
2019

Association for Advancement of Artificial Intelligence  
Graduate Travel Support

Stanford, CA  
2017 – Present

University of North Carolina – Charlotte  
Graduate Assistant Support Plan (GASP)

Charlotte, NC  
2017 – Present

## Professional Activities

### 1) Reviewing

- Reviewer of the **2<sup>nd</sup> International Workshop on Emoji Understanding and Applications in Social Media Co-located with The Web Conference 2019.**
- Reviewer of **NAACL 2019.**
- Reviewer of **ACL 2019.**
- Reviewer of **ACM CHI Conference on Human Factors in Computing Systems, 2019.**
- Reviewer of **WNLNLP 2019.**
- Reviewer of **AAAI 2020.**

### 2) Invited Lectures

- **Natural Language Processing** - Neural Networks for Natural Language Generation
- **Natural Language Processing** - Machine Translation
- **Computation Human Behavior Modeling (ITCS 8050/6050, PSYC-6099)** – Survey of Natural Language Generation Techniques
- **Applied Machine Learning** - Introduction to Reinforcement Learning

## References

### 1) Dr. Samira Shaikh

Assistant Professor,  
Department of Computer Science,  
University of North Carolina at Charlotte,  
9201 University City Blvd, Charlotte, NC- 28262,  
Phone: (704) 687-7022,

Email: [sshaikh2@uncc.edu](mailto:sshaikh2@uncc.edu)

## **2) Dr. Minwoo Lee**

Assistant Professor,  
Department of Computer Science,  
University of North Carolina at Charlotte,  
9201 University City Blvd, Charlotte, NC- 28262,  
Phone: (704) 687-8188,  
Email: [minwoo.Lee@uncc.edu](mailto:minwoo.Lee@uncc.edu)