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Svetlana Stoyanchev

Research Interests

Spoken and multimodal dialogue, human-agent interaction in virtual environments, semantics, discourse, question generation, interactive question answering, educational applications, applications of machine learning in speech and language processing.

Education

State University of New York, Stony Brook Sep 2004 – Jun 2009
PhD, Computer Science

New York University Sep 1999 – Jan 2003
MS, Computer Science (part-time while working)

University of Maryland, College Park Sep 1993 – May 1997
BS, Computer Science

Professional Experience

Columbia University Jan 2015 – present
Department of Computer Science, Adjunct Professor. Designed and taught a graduate seminar on spoken dialogue systems.

Interactions Corporation Dec 2014 – present
Principal Inventive Scientist. Research on automatic spoken dialogue and language processing with applications in customer service and analytics.

AT&T Labs Research Sep 2013 – Dec 2014
Principal Member of Technical Staff. Conducted applied research on multimodal dialogue and error recovery; evaluated uses of semantic parsing for summarizing and clustering customer service dialogues; designed language processing applications for big-data analytics on dialogue corpora.

Columbia University Oct 2011 – Sep 2013
Department of Computer Science, Research Fellow. Conducted research on targeted clarification strategies in automatic spoken dialogue. Supervised graduate and undergraduate students.

The Open University Jul 2009 – Sep 2011
Department of Computing, Research Associate. Worked on a corpus-based method for automatic generation of expository dialogues from text.

State University of New York Sep 2004 – May 2009
Department of Computer Science, Research Assistant. Designed, implemented, and performed experiments on spoken dialogue and on question answering systems. Analyzed linguistic adaptation in dialogue.

Department of Computer Science, Teaching Assistant. Sep 2005 – May 2006

Educational Testing Services	Summer 2008
<i>Internship.</i> Conducted experiments on automatic scoring of natural language sentences.	
AT&T Labs Research	Summer 2005
<i>Internship.</i> Evaluated effect of semantic role labeling in Question Answering.	
New York University	Jun 2002 – May 2004
<i>Computer Science Department, Research Assistant</i>	
Worked on statistical Machine Translation application.	
Online Retail Partners	Jul 2000 – Apr 2001
<i>Java developer</i>	
Mobius Management Systems	Jan 1998 – May 2000
<i>C++ developer</i>	

Patents

I am named as an inventor in a patent for 'Answer Detection for Natural Language Questioning' developed at AT&T Research Labs.

Technical Skills

Speech and text processing: language modeling, parsing, semantic role labeling, discourse analysis, dialogue annotation, prosodic feature extraction;
 System design and development: Python, Java, C++, Perl, VoiceXML;
 Tools and frameworks: Ravenclaw/Olympus dialogue management framework, machine learning Weka tool, web search and data indexing APIs, statistical tool R;
 Survey design: Survey Monkey, Amazon Mechanical Turk

Refereed Publications

Localized Error Detection for Targeted Clarification in a Virtual Assistant S.

Stoyanchev, M. Johnson *In Proceedings of the ICASSP 2015*

The Tag&Parse Approach to Semantic Parsing of Robot Spatial Commands S.

Stoyanchev, H. Jung, J. Chen, and S. Bangalore, *In Proceedings of the SemEval 2014 Workshop*

MVA: The Multimodal Virtual Assistant M. Johnston, J. Chen, P. Ehlen, H. Jung, J. Lieske, A. Reddy, E. Selfridge, S. Stoyanchev, B. Vasilieff, and J. Wilpon, *in Proceedings of the SIGdial 2014 Conference*

Dialogue Act Modeling for Non-Visual Web Access V. Ashok, Y. Borodin, S. Stoyanchev, and IV Ramakrishnan, *in Proceedings of the SIGdial 2014 Conference*

Detecting Inappropriate Clarification Requests A. Liu, R Sloan, MV. Then, S. Stoyanchev, J. Hirschberg, E. Shriberg, *in Proceedings of the SIGdial 2014 Conference*

Wizard-of-Oz Evaluation of Speech-Driven Web Browsing Interface for People with Vision Impairments V. Ashok, Y. Borodin, S. Stoyanchev, Y. Puzis, IV. Ramakrishnan, *in Proceedings of the 11th Web for All Conference*

Modelling Human Clarification Strategies S. Stoyanchev, A. Liu and J. Hirschberg,

In Proceedings of the SIGdial 2013 Conference

Exploring Features For Localized Detection of Speech Recognition Errors

E. Pincus, S. Stoyanchev and J. Hirschberg, *In Proceedings of the SIGdial 2013 Conference*

Concept Type Prediction and Responsive Adaptation in a Dialogue System S.

Stoyanchev and A. Stent (2012), *Dialogue and Discourse, Volume 3(1): 1-31.*

Localized Detection of Speech Recognition Errors S.Stoyanchev, P. Salletmayr, J.

Yang, and J. Hirschberg *In Proceedings of IEEE Workshop on Spoken Language Technology, 2012*

Clarification Questions with Feedback S. Stoyanchev, A. Liu, and J. Hirschberg, In

Proceedings of Interdisciplinary Workshop on Feedback Behaviors in Dialog, 2012

Fully Automated Generation of Question-Answer Pairs for Scripted Virtual

Instruction. P. Kuyten, T. Bickmore, S. Stoyanchev, P. Piwek, H. Prendinger, M.

Ishizuka *In Proceedings of the 12th International Conference on Intelligent Virtual Agents, 2012*

Comparing Modes of Information Presentation: Text versus ECA and Single

versus Two ECAs. P. Piwek and S. Stoyanchev *In Proceedings of the 11th*

International Conference on Intelligent Virtual Agents, 2011.

Data-Oriented Monologue-to-Dialogue Generation P. Piwek and S. Stoyanchev In

Proceedings of ACL/ HLT, 2011

Harvesting Re-usable High-level Rules for Expository Dialogue Generation

S. Stoyanchev and P.Piwek *In Proceedings of INLG, 2010*

Question Generation in the CODA Project P. Piwek and S. Stoyanchev In

Proceedings of 3rd Workshop on Question Generation, 2010

Generating Expository Dialogue from Monologue: Motivation, Corpus and

Preliminary Rules P. Piwek and S. Stoyanchev In Proceedings of NAACL, 2010

Constructing the CODA Corpus: A Parallel Corpus of Monologues and

Expository Dialogues S. Stoyanchev and P. Piwek In Proceedings of LREC, 2010

Concept Form Adaptation in Human-Computer Dialog S. Stoyanchev and A. Stent

In Proceedings of SIGdial, 2009

Predicting Concept Types in User Corrections in Dialog S. Stoyanchev and

A. Stent In Proceedings of EACL Workshop on Semantic Representation of Spoken

Language, 2009

Lexical and Syntactic Adaptation and Their Impact in Deployed Spoken Dialog

Systems S. Stoyanchev and A. Stent In Proceedings of NAACL, 2009

Automatic Model Building in c-rater J. Sukkarieh and S. Stoyanchev In Proceedings

of ACL Workshop on Applied Textual Inference, 2009

Exact Phrases in Information Retrieval for Question Answering S. Stoyanchev,

Y. C. Song, and W. Lahti In Proceedings of Coling Workshop on Information Retrieval

for Question Answering, 2008

Name-Aware Speech Recognition for Interactive Question Answering

S. Stoyanchev(Stenchikova), D. Hakkani-Tur, and G. Tur In Proceedings of ICASSP,

2008

Measuring Adaptation Between Dialogs S. Stoyanchev, A. Stent *In Proceedings of 8th SIGdial Workshop on Discourse and Dialogue, 2007*

RavenCalendar: A Multimodal Dialog System for Managing a Personal Calendar S. Stenchikova (Stoyanchev), B. Mucha, S. Hoffman, A. Stent *In Proceedings of NAACL HLT Demonstration Program, 2007*

Dialog Systems for Surveys: the Rate-a-Course System A. Stent, S. Stenchikova (Stoyanchev), and M. Marge *In Proceedings of the 1st IEEE/ACL Workshop on Spoken Language Technology, SLT 2006*

QASR: Question Answering Using Semantic Roles for Speech Interface S. Stenchikova, D. Hakkani-Tur, and G. Tur *In Proceedings of ICSLP-Interspeech, 2006*

QASR: Spoken Question Answering Using Semantic Role Labeling. S. Stenchikova (Stoyanchev), D. Hakkani-Tur, G. Tur *In Proceedings of ASRU-2005, 9th biannual IEEE workshop on Automatic Speech Recognition and Understanding, 2005 (Demo)*

Other Publications

The CODA System for Monologue-to-Dialogue Generation S. Stoyanchev and P. Piwek, *In Proceedings of SIGdial, 2011 (Demo)*

Annotation Scheme for Authored Dialogues S. Stoyanchev and P. Piwek *Open University Technical Report, 2010*

Thesis. **Impact of Responsive and Directive Adaptation on Local Dialog Processing** Stoyanchev *Defended May 2009*

Professional Activities

Speech and Language Processing Technical Committee Member (2014 – 2016).

Served on an NSF panel review committee 2014, 2015.

Publications Chair for the Automatic Speech Recognition and Understanding Workshop 2015.

Mentoring Chair for the SIGdial 2014 – 2015.

Senior reporter for the IEEE Speech and Language Technical Committee e-Newsletter (2006 – 2013).

Co-organizer of the 4th workshop on Automatic Question Generation, 2011.

Conference co-chair for the Dialogue and Discourse track of the ACL 2011.

Journal reviewer: *Comp. Ling.*, *Nat. Lang. Eng.*, *Trans. on Audio, Speech and Language Processing*, *Advances in HCI*, *Artificial Intelligence*, *Dialogue and Discourse*.

Program committee: AAI, ACL, BEA, COLING, EACL, ICASSP, ICMI, Interspeech, FLAIR, NAACL, SEMEVAL, SIGdial.