Ismini Lourentzou

Contact Information

Thomas M. Siebel Center for Computer Science
201 N. Goodwin Ave
Urbana, IL 61801 lourent2@illinois.edu
Office #2117 +1 217-419-6979

Research Interests

My research interests lie on the intersection of Information Retrieval, Machine Learning, Text Mining and Natural Language Processing. More specifically, my focus is on Intelligent Information Agents, Personalized Information Retrieval, Opinion Mining and Knowledge Representation.

Education

University of Illinois at Urbana - Champaign, Urbana, IL
Ph.D., Computer Science, *Expected:* May 2018
- Advisor: Prof. ChengXiang Zhai

Athens University of Economics and Business, Athens, Greece
B.S., Computer Science, July 2013
- Thesis Topic: *Automated Snippet Generation for Online Advertising*
- Advisor: Prof. Michalis Vazirgiannis

Technological Educational Institute of Athens, Athens, Greece
B.S., Business Administration, October 2009
- Thesis Topic: *The Implications of Basel II on the Greek Banking Sector*
- Advisor: Prof. Vassilis Orfanos

Publications

1. **Lourentzou I.**, Dyer G., Sharma A. and Zhai C.,"Hotspots of News Articles: Joint Mining of News Text and Social Media to Discover Controversial Points in News", accepted to 2015 IEEE International Conference on Big Data, Santa Clara, CA, USA
2. Thomaidou S., **Lourentzou I.**, Katsivelis-Perakis P., Vazirgiannis M., "Automated Snippet Generation for Online Advertising", In Proceedings of the 22st ACM International Conference on Information and Knowledge Management (CIKM '13), p.1841-1844, ACM, San Fransisco, CA, USA
3. Stathopoulos S., **Lourentzou I.**, Kyriakopoulou A., Kalamboukis T., "IPL at CLEF 2013 Medical Retrieval Task", CLEF 2013 Online Working Notes

Awards

1. **Microsoft Azure Research Award (November 2014)**
   14 awards given by Microsoft
   Provides generous access to Microsoft Azure for research purposes.
   Proposal: Multivariate Time Series Analysis for Trend Forecasting
   Estimated total market value: $20,000
2. Certificate of Achievement for the **most useful and cool project**
   CS 511 - Advanced Data Management course, Spring 2014
   Instructor: Kevin Chang, UIUC
   Project: "Multi-resolution drill-down with clustering and sampling"
3. Selected from the University of Illinois at Urbana Champaign, Computer Science Department as one of the three nominees for the **Microsoft Graduate Women's Scholarship** for 2014.
4. Team IPL at ImageClef 2013 - AMIA Medical Task: 2^{nd} place in Textual Ad-hoc image-based retrieval and 5^{th} place in Visual Ad-hoc image-based retrieval

Research Experience

Research Assistant, UIUC — Dec. 2013 to present
Supervisor: Prof. ChengXiang Zhai

- **Sentence-level controversy detection in news** Project website
  Abstract: A study by CNN has found that social media is the most frequent way to share and consume news online. Alongside with the ease of expressing opinions, social media has influenced the discussion of controversial news articles. By leveraging relevant comments in twitter and news web sites, we tackle the problem of highlighting sentences in a news article based on novel statistical measures of controversy. We exploit ranking techniques, aggregated sentiment analysis, as well as usage of extreme words and linguistic features to identify sentences in news articles as controversial and compare the performance of tweets and comments as evidence for controversy detection.
- **HIV Radar project**
  Interdisciplinary research, PI: Prof. Dolores Albarracn with members from several universities and departments ranging from psychology to statistics. Analyzing social and online media influences on HIV/STI transmission behaviors. We utilize Twitter and sociodemographic variables (e.g., poverty) for predicting HIV, as well as explore how these two factors interact. More information on the project website.
- **Visualizing Topic Models about African American women's experiences and standpoints**
  Interdisciplinary research, PI: Prof. Ruby Mendenhall with members from National Center for Supercomputing applications (NCSA), Sociology, Digital Humanities and Computer Science Departments. Currently applying "Mixture model for Comparative Text Mining" and Topic Summarization techniques to a large collection of documents.
- **Topic and opinion analysis from heterogeneous textual sources**
  The majority of topic modeling algorithms available today return a list of keywords associated with each topic, while it is left to the user to analyze how meaningful this output is. We point our efforts towards providing more useful representations of topics (Topic Summarization), while integrating contrastive opinions on each topic.

Research Assistant, AUEB — Feb. 2013 to June 2013
Supervisor: Prof. Theodore Kalamboukis

- **Information Retrieval Group at ImageClef 2013 - AMIA: Medical Task**
  Developed the Textual Ad-hoc image-based retrieval method and the textual input used for the Modality Classification task. Our team was placed second in Textual Ad-hoc image-based retrieval and fifth in Visual Ad-hoc image-based retrieval

Research Assistant, AUEB — July 2012 to June 2013
Supervisor: Prof. Michalis Varzigiannis

- **Ad Creative Generation (Bachelor Thesis Project)**
  Implemented the Information Extraction and the Sentiment Analysis phases during the development of a system that can produce small comprehensive advertising text (snippets) in an automated and massive manner given a product landing page as input.

Research Assistant, AUEB — March 2012 to June 2012
Supervisor: Prof. Michalis Varzigiannis

- **Data and Web Mining Group at 2012 KDD Cup**
  M. Thomaidou, E. Anagnostopoulos, and I. Lourentzou, Data and Web Mining Group at Knowledge Discovery and Data Mining Cup 2012 - Track 2: Predict the click-through rate of ads given the query and user information
  Designed the feature extraction and selection.
  Created and optimized the database for this task.

Teaching Experience

Teaching Assistant, UIUC — Fall 2013
CS 125 - Introduction to Computer Science
Instructor: Prof. Craig Zilles
Introductory course in computing for CS majors

Work Experience

Microsoft Research - Machine Teaching group — May 2015 to now
Exploring dictionary refinement and active learning. Dictionaries are leveraged in the ICE platform to bridge the gap between non-machine learning experts and the document classification system. This internship led to the design of methods for creating new dictionaries based on the topical distribution of the document collection and suggesting improvements to existing ones by utilizing semantic similarity and word embeddings. During these process we were able to discover class imbalance of our evaluation dataset as well as mispellings and ambiguous terms in the user defined dictionaries.

Packt Publishing — April 2014 to June 2014
Technical reviewer for video courses: "D3 for Dynamic Data Visualizations"
Alexander Simoes, Packt Publishing

Packt Publishing — Aug. 2013 to Sept. 2013
Technical reviewer of the book: " Data Visualization with D3.js Cookbook"
Nick Qi Zhu, Packt Publishing, (November 2013), ISBN: 9781782162162

National Bank of Greece S.A. — Oct.2005 to Aug. 2013
Department Of Business Loans
Department Of Imports - Exports & Foreign Exchange
- Provided information on related banking products and services
- Processed customers loan applications
- Managed customers collateral (securities, bank checks, mortgages)

National Bank of Greece S.A. - Shipping Branch — Feb. 2004 to Oct. 2005
Department Of Remittances
Customers of this particular branch are only shipping companies, both foreign & local.
- Provided information on related banking products and services
- Processed money orders and transfers, invoice payments

Other Activities

PURE Mentor, UIUC — Fall 2014 to Spring 2015
PURE - Promoting Undergraduate Research in Engineering
Graduate mentor for CS undergraduate students that work on a selected 12-week research project under the mentor's supervision.

CS Graduate Student Ambassador, UIUC — Spring 2014 and Spring 2015
CS Grad Ambassadors help the Department of Computer Science connect with incoming recruits to welcome them to the department and answer their questions prior to arriving to campus through email. In some situations, ambassadors will be a host to a recruit in the case of visiting the department.

Hardware and Software Skills

Programming Languages:

- ***Advanced:*** Java, Matlab/Scilab/Octave/R, C#/C++, SQL/mySQL, UNIX Shell Scripting, LaTeX
- ***Intermediate:*** Java Servlets, JSP, XML, HTML, CSS, UML, Awk, Android, JUnit, D3.js (JavaScript library for data visualizations)
- ***Beginner:*** Python, F#

ONLINE COURSES

Statements of Accomplishment from coursera.com in:

- **Machine Learning**, Prof. Andrew Ng - Stanford University
- **Computing for Data Analysis**, Prof. Roger D. Peng - Johns Hopkins University
- **NLP**, Prof. D. Jurafsky & Prof. Ch. Manning - Stanford University

LANGUAGES

Greek: Native
English: Fluent (Certificate of Proficiency in English, University of Michigan 2002)
French: Beginners (Delf - Level I 2002)