Shruti Chhabra

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Research Interests

Text Summarization, Information Retrieval, Text Mining

Education

PhD, Computer Science
Indraprastha Institute of Information Technology(IIIT), Delhi
Advisor: Dr. Srikanta Bedathur (bedathur@iiitd.ac.in)
Related Courses: Database Methods in Information Retrieval, Pattern Recognition, Natural Language Processing (Coursera Online Course), Probabilistic Graphical Models (Coursera Online Course)

Aug-2011 to Present
(CGPA : 9.1/10)

B.Tech., Computer Science and Engineering
Department of Computer Science and Information Technology
Jaypee Institute of Information Technology(JIIT), Noida

2007-2011
(CGPA : 8.2/10)

Work Experience

- **PhD Scholar at IIIT-Delhi(June 2011-Present)**
  Entity-centric Summarization: The aim is to generate comprehendable text summaries of graph snippets. These graph snippets or subgraphs are obtained for a set of entities (in our work, we use entity pair) from large entity-relationship graphs. The problem is divided into following subproblems:
  - Evaluation of state-of-the-art subgraph extraction algorithms for comprehendibilty. *(ongoing work)*
  - Propose a system to generate text summaries for subgraphs. *(work published)*
- **Research Intern at IBM Research, New Delhi(Sep 2015-April 2016)**
  Evaluation of state-of-the-art subgraph extraction algorithms for comprehendibilty: The project is based on evaluating the graph snippets for interestingness and comprehendibility.
  - Extract graph snippets from large entity relationship graphs, such as DBpedia, Yago, and Espresso, given an entity pair using state-of-the-art subgraph extraction algorithms.
  - Prepare Evaluation Portal to obtain user preferences of graph snippets.
- **Research Intern at Xerox Research Center India, Bangalore(May 2014-July 2014)**
  Predicting Future Activites of User on Social Media Platforms: The project aimed at predicting future activities of a social media user; we experiment with twitter user.
  - Consider twitter stream of a user as time-series data and predict features such as number of tweets, topics, etc, for time instance.
  - Propose a time series model based on regression and ARIMA models to predict such features. Compare with other models such as ARIMA, VARMA and DRM.

  The patent application for the work has been filed.
- **Intern at Tveen Technologies Pvt Ltd(May 2010-July 2010)**
  Text Event Parser: Event is a social occasion with attributes like date, time, venue, contact details,etc. Given a domain url, it extracts all events and associated details.

- Designed a single schema comprising of the various details (such as date, time, title, description, contact information) available from different event related sites.
- Developed a system based on rule based approach to extract the events and associated details. For each feature, a different extraction technique was used. For example, for date and time, python datetime module was modified to extract all expected formats and to identify title, formatting features were used.
- Tagged the events with their types e.g. Music, Spritual, Night-out, etc using dictionary overlap and frequency based technique.

Fellowships and Grants

- Awarded TCS Research Fellowship, 2011
- Awarded Student Research Grant from Yahoo! India R&D
- Awarded Travel Grant from IACRS, India to attend ECIR
- Awarded ECIR Student Grant

Publications

- Shruti Chhabra, Srikanta Bedathur. *Entity-centric Summarization: Generating Text Summaries for Graph Snippets.* WWW PhD Symposium 2014.
- Shruti Chhabra, Srikanta Bedathur. *Towards Generating Text Summaries for Entity Chains.* ECIR 2014 (Oral).
- Shruti Chhabra, Srikanta Bedathur. *Generating Text Summaries of Graph Snippets.* COMAD 2013 (Oral Short Paper).

Patent

- Shruti Chhabra, Ragunathan Mariappan, and Shourya Roy. *METHOD AND SYSTEM FOR PREDICTING FUTURE ACTIVITIES OF USER ON SOCIAL MEDIA PLATFORMS.* (Filed)

Projects Undertaken

- **Generating Text Summaries for Entity Chains**:
  The aim of this experiment was to generate a ranked list of summaries for a two-length entity chain. OpenIE was used as the source for sentences.
  (PhD Dissertation Work, 2013-14)
- **Extracting Support Sentences for Entity Pair**:
  The experiment is performed to understand the significance of context sentences in retrieval of relationship descriptions for an entity pair from sources such as Wikipedia.
  (PhD Dissertation Work, 2012)
- **Music Emotion Recognition**:
  Given a music audio wave file, classifies the file into one or more than one of the 6 predefined emotion classes using multi-label classification algorithms . To decide the algorithm, a comparison study of performance of multi-label classification techniques MlkNN, BPMLL, Calibrated Label Ranking, RAkEL was performed for recognizing music emotions.
  (Pattern Recognition Course Project, Winter 2012)
- **Mudra Recognition**:
  Kathak is a classical indian dance and makes heavy use of hand gestures or mudras in the narratives. There are about 28 single hand mudras and 24 double hand mudras. Each mudra has a number of possible meanings, each applicable in a certain context. The sequence of these mudras along with other features such as body posture and facial emotion, forms a story being narrated in a dance performance. The problem we addressed in our work was: given a sequence of mudras as inputs, formulate and rank probable stories that are being narrated in the given sequence.
  (B.Tech. Major Project, Summer 2011 and Winter 2011)

- **Automated Jacket**:
  Comprised of system to control temperature of the jacket according to the surrounding temperature, prevent pick pocketing and sytem emphasising girls' protection .The project was selected for the project exhibition cum competition in International Conference on Contemporary Computing (IC3) 2009 held at JIITU, Noida.
  (Microprocessors and Microcontrollers Course Project, Summer 2009)

- **Shot Put Throw**:
  Robot was provided with the functionality to pick the ball(tennis ball) and throw it (similar to shot put event). It was presented in Robo Olympics 2007 held at JIITU, Noida.
  (Robotics Club Project, 2007)

Teaching Experience

- Teaching Assistant for Information Retrieval Course at IIIT, Delhi from Jan-May 2015
  Instructor: Dr. Srikanta Bedathur

- Teaching Assistant for Information Retrieval Course at IIIT, Delhi from Jan-May 2011
  Instructor: Dr. Srikanta Bedathur

- Teaching Assistant for Signals and Systems Course at IIIT, Delhi from Aug-Nov 2011
  Instructor: Dr. Subhasis Banerjee

Technical Skills

Basic Programming	: Java, Python, R
Database	: SQL
Tools	: Eclipse, Netbeans, Latex

Professional Activities

- Gave a short presentation on topic "Formal Information Snippets to StoryBoards" in TACTiCS, 2013.
- Presented a poster titled "Entity-Centric Summarization" in I-CARE, 2012.
- Elected as IIITD ACM Student Chapter Chair 2012-13.
- Sun Certified Programmer for the Java Platform, Standard Edition 6, April 2010.
- Demonstrated project in Students' Project Exhibition cum competition, International Conference on Contemporary Computing (IC3-2009), organized by JIITU jointly with University of Florida, for the project titled "Automated Jacket".