Hong Wang

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Citizenship: United States

OBJECTIVE

I am a hard working graduate student who is looking for a position in software engineering. I have experience in full-stack development, database architecture and management, data visualization and data mining.

EDUCATION

Computer Science, (PhD Student) 12/2018
Arizona State University
Adviser: Ross Maciejewski

Computer Science, B.S. 05/2013
University of Nevada, Las Vegas

WORK EXPERIENCE

Pacific Northwest National Laboratory
PhD Research Intern 05/2017 – Current

- Worked as a visualization researcher and full-stack web developer.
- Project: A Visual Analytics Framework for Climate Model Comparison
  - Designed and developed a visual analytics system using web technologies to help climate scientists compare model fidelities.
  - Utilized various visualization techniques such as parallel coordinate plots, heat map, histogram, etc.

  Technology Used: *Javascript, ReactJS, Redux, D3.js, NodeJS, MongoDB*

Arizona State University
Graduate Research Assistant 07/2014 – Current

Graduate Teaching Assistant 08/2013 – 05/2014
Introduction in Programming for C++

SKILL HIGHLIGHTS

Programming Languages: Javascript, Java, C/C++, Matlab, R, HTML, CSS
Libraries/Frameworks: D3.js, jquery, ReactJS, Redux, NodeJS, Tomcat, OpenGL
Databases: MongoDB, MySQL, PostgreSQL
Revision Controller: Git
Operating System: Linux

RESEARCH PROJECTS

Project demos can be found at http://www.public.asu.edu/~hxwang/

A Visual Analytics Framework for Spatial Temporal Trade Network Analysis 2017

- Lead a team of three developers to build a visual analytics system utilizing web technologies.
- Calculated trade network properties, such as triad profile and clustering coefficient, for each country.
- Compared and analyzed the network properties of each country using various visualization techniques.
- Detected sudden changes of network properties of each country and highlighted them.

Technology Used: *Javascript, Java, HTML, D3.js, Tomcat, MySQL*

A Visual Analytics Framework for Identifying Topic Drivers in Media Events 2016

- Worked on a team with two developers to build a visual analytics system utilizing web technologies.
- Developed search and annotation of documents based on keywords selected from a secondary dataset.
- Calculated WordNet similarity for all datasets and stored them in the database.
- Implemented a hierarchical clustering method to group semantically related words.
- Used a force directed layout to display the clusterings and allow multiple interactions on the layout to adjust the clusterings.
- Displayed and annotated selected documents on a timeline.

Technology Used: *Javascript, Java, HTML, D3.js, Tomcat, MongoDB*

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Visualizing Attitude toward Dairy Products in Social Media 2015

- Implemented a word tree layout to allow users to detect frequently mentioned phrases in twitter.
- Allowed users to choose phrases on the word tree layout, and display their mention frequency for each state on a choropleth map.
- Extracted the sentiment from each tweet and plotted the average sentiment for each state on a choropleth map.

Technology Used: *Javascript, Java, HTML, D3.js, Tomcat, PostgresSQL*

Visualizing Topical Trends in Social Media 2014

- Used LDA topic model to extract topics from tweets and plot the topic distribution over time.
- Extracted named entities from the tweets and plotted the frequency of the named entities on a timeline.
- Calculated the frequencies of co-occurrences for all pairs of the named entities and plotted their relationships using a force-directed layout.

Technology Used: *Javascript, Java, HTML, D3.js, Tomcat, MongoDB*

SIDE PROJECTS

Comparing Universities by Graduating Rate and Pell Grant Rate

- Compared different universities by plotting the percent of students who graduate in four years against the percent of students who receive Pell Grant.

Technology Used: *HTML, Javascript, D3.js, NodeJS*

A Simple Javascript Library for Clustering

- Provided a library that performs hierarchical clustering, kmean clustering, and Girvan Newman network clustering
- Can be found at https://github.com/kenns29/clustering/

PUBLICATIONS

- **H. Wang**, A. Dasgupta, S. Burrows, N. O'brien, "MyriadCues: Supporting Expert Judgment of Simulation Model Performance Using Comparative Visual Cues", *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (Submitted)
- **H. Wang**, Y. Lu, F. Wang, S. Landis, R. Simmons, S. T. Shutters, R. Maciejewski, "A Visual Analytics Framework for Spatial Temporal Trade Network", *IEEE Transactions on Visualization and Computer Graphics* (Submitted).
- Y. Lu, **H. Wang**, S. Landis, R. Maciejewski, "A Visual Analytics Framework for Identifying Topic Drivers in Media Events", *IEEE Transactions on Visualization and Computer Graphics* (To Appear).
- Y. Lu, M. Steptoe, S. Burke, **H. Wang**, J. Tsai, H. Davulcu, D. Montgomery, S. R. Corman, R. Maciejewski, "Exploring Evolving Media Discourse Through Event Cueing" *IEEE Transactions on Visualization and Computer Graphics*, 22(1):220-229, 2016.
- C. M. Whisner, **H. Wang**, S. Felix, R. Maciejewski, "Mining the Twitter-Sphere for Consumer Attitudes Towards Dairy," *The FASEB Journal* vol. 30 no. 1 (Abstract)

REFERENCES

Available upon request.