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.

EDUCATION

Computer Science, (PhD Student) (2018)
Arizona State University
Adviser: Ross Maciejewski
Computer Science, B.S. (2013)
University of Nevada, Las Vegas

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

PROJECTS

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

A Visual Analytics Framework for Climate Model Comparison (2017)

- Work in a team of two developers to build a web-based application.
- Calculate climate model accuracy based on various evaluation metrics.
- Visualize and compare the model accuracy using various visualization techniques.

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

A Visual Analytics Framework for Spatial Temporal Trade Network Analysis (2017)

- Work in a team of three developers to build a web-based application.
- Calculated trade network properties, such as triad profile and clustering coefficient, for each country.
- Compare and analyze the network properties of the countries using varies visualization techniques.
- Detect sudden changes of network properties of each country and highlight them.

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

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

- Work in a team of two developers to build a web-based application.
- Searching and annotating documents based on keywords selected from another dataset.
- Calculated WordNet similarity and stored them into the database, and 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.
- Display and annotate selected documents on the timeline.

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

Visualizing Attitude toward Dairy Products in Social Media (2015)

- Implemented a word tree layout to allow user detect frequently mentioned phrases in twitter.
- Allow the user to choose phrases on the word tree layout, and plot the frequencies they are mentioned in each state on a choropleth map.
- Extract sentiment from each tweet and plot the average sentiment for each state on the map.

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

Visualizing Topical Trends in Social Media (2014)

- Use LDA topic model to extract topics from tweets and plot the topic distribution over time.
- Extract named entities from the tweets and also plot the frequency of the named entities on a timeline.
- Calculate the frequencies of co-occurrences for all pairs of the name entities and plot their relationships using a force-directed layout.

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

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SIDE PROJECTS

Comparing Universities by Graduating Rate and Pell Grant Rate

- Compare 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

- Performs hierarchical clustering, kmean clustering, and Girvan Newman network clustering
- Can be found at https://github.com/kenns29/clustering/

PUBLICATIONS

- 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* (Accepted)
- 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.

EXPERIENCE

PhD Intern (2017 Summer)
Visualization Researcher/Full Stack Web Developer
Pacific Northwest National Laboratory
Research Assistant (2014-Current)
Arizona State University
Teaching Assistant (2013-2014)
Intro to Programming in C++
Arizona State University