JIN WANG

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SOFTWARE DEVELOPMENT ENGINEER

Software Design & Development | Software Development Lifecycle (SDLC) | Requirements Gathering

Emerging computer science major educated and trained in developing and designing systems and applications to facilitate business objectives. Adept at modifying and updating software to achieve desired goals. Skilled at facilitating systems testing and validation procedures, consulting with team on project status and working through technical challenges. Able to consult with engineering staff to evaluate software/hardware interfaces and develop specifications and performance requirements. Exemplary background in conducting data visualization for scientific data.

Core Competencies

- Project Management
- Team Collaboration
- Deep Learning
- Machine Learning
- Problem Solving & Issue Resolution
- Natural Language Processing
- Requirements Gathering
- Big Data
- Web Design
- Data Visualization
- Data Modeling
- Coding & Bug Fixes

EDUCATION

Master of Science, Computer Science, 4.0 GPA, University of Nebraska, Lincoln, NE, July 2017 - December 2019
Bachelor of Food Science, Guangxi University, Nanning, China

TECHNICAL EXPERTISE

C++, Java, C#, Python, JavaScript, HTML, CSS, SQL, MATLAB, OpenGL, WebGL
Linux, Windows, Mac

PROFESSIONAL EXPERIENCE

NEBRASKA DEPARTMENT OF NATURAL RESOURCES, Lincoln, NE 2018 – Present
Software Developer

Support and facilitate software development and modeling projects to assist the Department of Natural Resources in collecting and analyzing data pertaining to water distribution and natural resource use.

- Participated in web design, maintenance and software development for INSIGHT (Integrated Network of Scientific Information & Geohydrolic Tools) to provide annual snapshot of water conditions across the state. Utilized JavaScript, HTML, ArcGIS and SQL database to deliver the visualization of the hydrological data.
- Developed model that learns the government's behavior in the allocation of water resources based on real world hydrological data to map hydrological data to the water distribution result; increased accuracy by 67% compared with using regression. Python and Machine Learning Techniques are used to train the model, and MATLAB is used to visualize the result.

ELECTION SYSTEMS & SOFTWARE, Omaha, NE May 2019 – Present
Software Developer

- Ported the Linux-based image processor libraries to MS Windows. Replaced or rewrote libraries and functions that are not applicable under Windows. Updated the old library and solved the library conflictions.
- Created a new Windows App "Ballot Image Analyzer" using C#. The App leverages existing software tools and libraries to deliver a fast and reliable graphics user interface that helps users efficiently & effectively analyze ballot images data.

UNIVERSITY OF NEBRASKA, Lincoln, NE 2017 – Present
Research Assistant

- Supported EPA project, publishing NE Wetland app to App Store and Google Play to provide Nebraska-wide Soil Survey Geographic (SSURGO) data and National Wetland Inventory (NWI) for mobile devices. Published services with ArcGIS, designing and publishing mobile apps, and maintaining the server. (https://itunes.apple.com/us/app/ne-wetland/id826540181?ls=1&mt=8; https://play.google.com/store/apps/details?id=edu.unl.vgilab.Nebraska_Soil_Wetland)

- Collaborated on development of data replacement algorithm for interactive, large-scale visual analytics, funded by NSF. The project combines C++, OpenGL, CUDA, and Machine Learning Techniques to deliver the visualization of the scientific data.
- Developed end-to-end system for visualizing 3D plant data to study its growth, providing all coding for visualization part, funded by NSF. We store the data into a Neo4j database and then visualize the 3D mesh data using WebGL, JavaScript, and HTML.
- Built map interface to conduct interactive analyses of diverse datasets through visual/graphical interactions, NSF EarthCube projects. (http://odl.unl.edu/)
- Constructed a movie recommender system that clusters users by preferences and recommends movies.
- Formulated tool to visualize the traceroute process on Google Maps in real time using Vue.JS.

PUBLICATIONS

Integration of STARE and netCDF for Scalable Geophysical Analytics
NSF EarthCube All Hands Meeting Poster, Denver, CO, June 2018.

An Integrated Network of Scientific Information & GeoHydrologic Tools: Automatic User Interface Generation for Visualizing Big Geoscience Data
2018 National Institutes for Water Resources Regional Symposium "Water Resources of the U.S. Great Plains Region: Status and Future" Poster, Lincoln, Nebraska, October 24-26, 2018.

A Big Earth Data Platform Exploiting Transparent Multimodal Parallelization
Proceedings of 2018 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Valencia, SPAIN, July 22-27, 2018

A Unified Computation and Storage Framework for Interactive Large-scale Geophysical Analytics
NSF EarthCube All Hands Meeting Poster, Washington, DC, June 2018.

Interactive Visualization and Analysis for Large Time-varying Multivariate Earth Science Data
2018 Conference on Adding Value and Preserving Data (PV2018) Poster, Harwell, UK, May 15- 17, 2018

A geohydrologic data visualization framework with an extendable user interface design
AWRA 2019 Spring Specialty Conference: Setting Conditions for the Success of Integrated Water Resources Management, Omaha, NE, March 23-27, 2019

Wang, J., Wu, J., Zhou, Y., Yu, H., Tang, Z., 2019, An Integrated Network of Scientific Information & GeoHydrologic Tools: Automatic User Interface Generation for Visualizing Big Geoscience Data,
UNL Spring Research Fair, Lincoln, NE.