Awalin Sopan

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EXPERIENCE

Senior Software Engineer, FireEye Inc, June 2015 to present.

- Leading the machine-learning project with data analysis for triaging cyber threats. I have developed end-to-end training and prediction apps using Scikit learn classifying data as threat or not. Developed UI component to interpret the prediction result and the underlying model using data visualization. Mentored a summer intern for this project, too.
- Worked as the UI lead of analysis team; our analytics web-app is used by SOC analysts to identify possible cyber-attacks. As a part of an agile team, I am involved in requirements analysis, UI prototyping, development, releasing, and fixing bugs. My focus to ensure the best user experience for our analysts.
- Developing predictive analytics framework to automate decisions for our analysts using various machine learning toolkits and both supervised and unsupervised classification methods.
- Improved the alert search interface for analysts to triage them efficiently. Introduced contextual visual analytics so analysts can easily understand the context of an attack.
- Developed an end-to-end restful app for intel search using REDIS cache to improve search time. Improved the visual query builder UI widget to enable the analysts to input different types of queries.
- Developed a Pcaps visualization with matching rules, timeline visualization for exploit detection events, and a real time Netflow visualization of a compromised host.
- Wrote client and server side unit tests to improve the code quality and reduce foreseeable errors.
- Introduced design guidelines for the UI team and created a review process to follow the guidelines. This is helping both our QA and developers to improve our product quality.
- Developed reusable UI widgets, wrote documentation for them, encouraged the team to use these components. This created consistency all over our web-app.
- Improved the overall user experience by unifying the appearance and behavior of the interface, and adding client side validation that reduced server side failures.

HCI Research Scientist, MicroStrategy Inc, February 2014 to May 2015.

- Collaborated with designers, and improved the web UI improving consumer experience by changing the navigation scheme, dialog UI, and creating a unified theme for the system in a scrum based agile team.
- Designed and developed an iOS app to visualize large-scale time-series data with gesture based interaction.

Research Intern, IBM TJ Watson Research Center, June to August 2012.

Designed and developed web-based visual query system to detect anomalous patterns in user behavior.

Research Intern, Intelligent Systems Lab, PARC, June to August 2011.

Designed and developed a web-toolkit for life cycle decision support system in designing spacecraft.

Graduate Research Assistant, Human-Computer Interaction Lab, University of Maryland. September 2009 to 2013.

- Conference Monitor: designed and developed a real-time web-based tweet visualization dashboard using the Twitter API and D3 to monitor the backchannel conversation of conferences. Analyzed conference tweeting pattern. Paper in Social Informatics, 2012.
- Distribution Overview: developed visualization techniques to summarize columns of distribution data, integrating statistical and visual summaries of multiple networks, analyzed temporal evolution and leadership in online communities conducted usability study. Papers in IJHCI, 2011, IEEE SPM 2013.
- G-Pare: designed and developed visual analytics tool to visually compare probabilistic networks, created API to coordinate model and visualization components. Paper in VAST 2011.

- Wrong Patient Error: investigated new user interface techniques to reduce wrong patient selection in EHR systems, developed a web-based prototype demonstrating the techniques. Paper in AMIA 2014.
- Community Health Map: designed and developed US county healthcare data visualization web-app in collaboration with the Dept. of Health and Human Services. Journal paper Govt. Information Quarterly.

Software Engineer, Vizrt. June 2007 to July 2009.

Developed J2EE client-server tools for content management engine in an agile team. Created test plans and wrote GUI tests. Provided tutorial courses to developers.

EDUCATION

MS, Computer Science,
University of Maryland. 2013.
Advisor: Ben Shneiderman.

BS, Computer Science and Engineering,
Bangladesh University of Engineering and Technology, 2007.
Ranked 11th among 120 students.
Thesis: 'Effect of diversity in neural network ensemble'

EXPERTISE

Data visualization, HCI, Machine Learning, User Experience, Visualization for Cyber Security.

PROGRAMING SKILLS

JavaScript: jQuery, Backbone, NodeJS, CoffeScript, Mocha, D3, HTML/CSS, Bootstrap,
Java, J2EE, JSP, Struts, GWT, Objective C, C/C++, OpenGL,
Python, Django, nltk,
MySQL, PhP, Marionette, Struts, bookshelf, Github
Machine Learning: Scikit Learn, pandas, TensorFlow

SOFTWARES

IDE: Webstorm, Eclipse, Netbeans.
Analysis: Scikit Learn, Matlab, NodeXL, Tableau, Spotfire.
Prototyping: Balsamic, Omnigraffle.

AWARDS

- Grace Hopper Conference, 2017. Talk accepted.
- NASA Space App Challenge: DMV regional winner (with team), 2016.
- ACM-MSR student research competition award (graduate category), Grace Hopper Conference 2012.
- Visual Analytics Mini-challenge Award, IEEE VIS, 2010.
- Sun Certified Java Programmer.
- Dean's Merit award, each year of undergraduate for being among the top 15 students.

Work Authorization: US Citizen.