Lalit Agarwal

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Interests

Human-Computer Interaction, Usable Privacy

Technical Skills

Languages: Java, C++, PHP, JavaScript
Tools: Android Studio, Matlab, Selenium web-driver, HTML, Labview, MySQL

Education

Master of Mathematics, Computer Science — Sept '14 – Present
University of Waterloo, Waterloo, Canada — CGPA: 88.20/100

Bachelor of Technology, Information and Communication Technology — Jul '09 - May '13
Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India — CGPA: 8.55/10

Research Experience

Designing new authentication interfaces for Android
Mentor: Prof. Urs Hengartner, University of Waterloo, Canada — May '15 - Present
I am currently working on designing new interfaces for re-authenticating users using implicit authentication schemes. Various schemes such as an app-level Pattern/PIN lock screen, taking a picture of the user etc. have been proposed. The usability of these schemes will be evaluated using a user study.

Developing a selective ad-blocking tool
Mentor: Dr. Saurabh Panjwani, Bell Labs Research, India — Winter '13
Conducted a research study to address the concerns of Indian web users towards the content of on-line advertisements. The user perception of online ads was investigated through a user study which was then followed by developing a selective ad-blocking browser plugin.

MILLEE (Mobile and Immersive Learning for literacy in Emerging Economies)
Mentor: Prof. Matthew Kam, CMU, USA — May '10 – Dec '10
My role in the team was to play-test the language learning mobile games being developed. It involved conducting alpha and beta tests on these games to find out any potential bugs, design flaw and submitting formal reports so that they could be fixed.

Work Experience

Research Associate (Part-time), Technology Information, Forecasting and Assessment Council (TIFAC), India
Mentor: Dr. Prabhat Ranjan, Executive Director, TIFAC, India — Sep '13 - June '14
I worked on developing web-applications for use within the organization. I was also involved in maintaining organization's network performance by performing network monitoring and analysis, conducting security analysis of a few third-party applications being used in the organization.

Teaching Experience

Teaching Assistant, University of Waterloo, Canada
Course: CS234- Data Types and Structures, Spring '15
Course: CS136- Elementary Algorithm Design and Data Abstraction, Winter '15
Course: CS135- Designing Functional Programs, Fall '14

Selected Projects

Cloud Price Estimation Tool — Winter '15
Advisor: Prof. Bernard Wong, University of Waterloo — *Team Size: 3*
A utility tool which allows users to estimate the best pricing plan available for running their application on the cloud depending on the resource requirements of the application.

Crowd-sourcing system for multi-lingual plagiarism detection Fall '14
Advisor: Prof. Edith Law, University of Waterloo, Canada *Team Size: 2*
Developed a crowdsourcing system to overcome the limitations of machine translation by allowing users to identify plagiarized documents across languages. I was involved in developing the front-end interface of the platform using PHP, JavaScript and MySQL.

Ad-Filter Firefox Plugin Winter '13
Advisor: Dr. Saurabh Panjwani, Bell Labs Research, India *Team Size: 1*
Developed a modified version of the popular Ad-block plus plugin which blocks only embarrassing and sensitive on-line advertisements in contrast to blocking all on-line ads.

Ad-Extraction tool Winter '13
Advisor: Dr. Saurabh Panjwani, Bell Labs Research, India *Team Size: 1*
Developed a tool to identify the content of advertisements present in a given list of webpages. The tool extracts information of both image and textual ads from a given list of webpages.

NGO Information Management Suite
Advisor: Prof. Asim Banerjee, DA-IICT, India
Developed a web based information management system for an NGO for cataloguing their work, evaluating the NGO's performance and creating social maps of the population in which the NGO operates. I was involved in developing the server side interface which involved coding in PHP and JavaScript. Winter '12 Team Size: 9

P2P File transfer system Winter '11
Advisor: Prof. Sanjay Chaudhary, DA-IICT, India *Team Size: 2*
Implemented a client-server system which allowed file sharing between clients in a network. The project was implement in C and the concepts of socket programming and shared memory were used.

Publications
Do Not Embarrass: Re-Examining User Concerns for Online Tracking and Advertising, ACM Symposium on Usable Privacy and Security (SOUPS), 2013
Lalit Agarwal, Nisheeth Shrivastava, Sharad Jaiswal, Saurabh Panjwani, Bell Labs Research, India

Relevant Coursework
Data Structures and Algorithms, Operating Systems, Introduction to Cryptography, Sensor Network Systems, Graph theory, System and Network Security, Network Protocols, Security Protocols, System Software, Software Engineering, Introduction to Artificial Intelligence, Human-in-the-Loop Systems, Cloud Computing and Software Defined Networking.

Past Activities
Graduate Student Ambassador, Computer Science Department, University of Waterloo
Treasurer & Resource Manager, Electronic Hobby Centre, DA-IICT

Awards and Achievements
Mathematics Graduate Experience Award, University of Waterloo, Winter '15, Fall '14
Successfully completed Stanford University's course "Introduction to Cryptography" on Coursera.
Ranked among the top 1% students all over India (total 1,000,000 students) in AIEEE-2009 and IIT-JEE-2009.

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