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Yiyun Yao (Tony)

Education

Carnegie Mellon University, *M.S. in Information Networking*, Pittsburgh, 2016.08 - 2018.05.
- QPA: 3.67/4.0, Courses: Web Apps Development, Cloud Computing, Advanced Cloud Computing, Computer Graphics

Southeast University, *B.E. in Software Engineering*, Nanjing, 2012.09 - 2016.06.
- QPA: 3.73/4.0, Rank: 1^{st}/137, Course: Data Structures, Software Engineering, Computer Networks, Operating Systems

Skills

C++, JavaScript, Java, C, Python, MySQL, Shell, vim, git, tmux, Django, AngularJS, Hadoop, Spark

Internship

Google, *Android WebView Team, Chrome*, Software Engineering Intern, Mountain View, 2017.05 - 2017.08.
- Worked on Java layer of Android WebView to enable *Finch*, a server-controlled A/B testing framework in Chrome
- Created an Android *JobService* for test data fetching to reduce battery and memory overhead on mobile devices
- Developed a configuration service that shared test data with all the WebViews on the system to reduce the data usage
- Designed a strong and robust IPC mechanism to let WebView work properly when the service is down or killed by the system
- Introduced a new platform Android WebView on the *Finch Server* that test designers can specify as a target platform
- Updated the data analysis dashboard for Android WebView to support Finch data collection which is used by the whole team

Microsoft, *Visual Studio Team*, Software Engineering Intern, Shanghai, 2015.07 - 2016.01.
- Worked on the OpenPublish service that automated the publish of the documentation from markdown repos to MSDN website
- Built an intuitive front-end management portal based on *AngularJS* with interactive user interface to operate document repos
- Developed a command line tool in *Python* and *C#* that let documentation owners view their final-generated website locally
- Implemented the server-side logic to generate change log and build log for the documentation owners to look for errors

Projects

Miller's Hollow Online, *Best Course Project for Web Apps Dev*, Team Leader, Pittsburgh, 2016.09 - 2016.12.
- Created a website that let people play offline board game *Werewolves of Miller's Hollow* in the browser using video call
- Developed the video communication mechanism that supported 9 people playing together using *WebRTC*
- Implemented a complete set of game logic and real-time asynchronous updates of the web UI using *jQuery* and *WebSocket*
- Built the back-end service with a complete user system based on *Django* and the game WebSocket server using *Channels*

Twitter Analytics Web Service, *Team Project for Cloud Computing*, Pittsburgh, 2016.09 - 2016.12.
- Built a performant *RESTful* web service on AWS cloud for 4 different queries to more than 1 TB Twitter user and tweet data
- Processed original data using *MapReduce* and stored them in both *MySQL* and *HBase* with separately designed schema
- Developed front-end services based on *Java Servlet* and *Elastic Load Balancer* making 8 instances work together by replication
- Achieved over 150% qualified requests/second throughput on the mixed query with $0.95/hour budget on AWS cloud

Heterogeneity-aware Job Scheduler, *Project for Advanced Cloud Computing*, Pittsburgh, 2017.04 - 2017.05.
- Built a scheduler based on *Apache YARN* to maximize utility for jobs with different types and different start times
- Scheduled jobs based a normalized quantitative indicator related to factors like estimated running time and free machines
- Achieved top 10 percent on two hidden tests, showing stability under repeated tests

HackShanghai, (2^{nd}/60) *in the largest 24-hour hackathon in China*, Team Leader, Shanghai, 2014.11.15 - 11.17.
- Proposed a new way and a feasible solution to watch online videos in the browser by using smart phones as remote controls
- Created a Chrome extension to search videos based on user interests and organize them into watch lists with a clear UI
- Built the WebSocket server on the Chrome extension that received operation commands in *JSON* through *WebSocket*
- Developed the Android app that operated the Chrome extension by recognizing the screen touches and the hand gestures

Shaiguo: Live Stream Platform, (3^{rd}/35) *in College*, Team Leader, Nanjing, 2014.08 - 2014.09.
- Created a website that let people open their own video streams on the Internet and shared streams with anyone using a browser
- Developed highly-modular and reusable components based on *AngularJS* to make front-end code clean and maintainable
- Built the front-end, interacting with the *RESTful* back-end with only *JSON*, to compartmentalize the design

Regular Expression Visualization, *Best Course Project for Compiler*, Nanjing, 2014.11 - 2014.12.
- Implement the algorithm using Python to generate NFA/DFS/min-DFA from the basic regular expressions
- Developed a website to visualize three automata as the state machine diagrams based on the user-input regular expressions