Yu-Jen Lai (Ian) 賴裕仁

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Summary

Self-motivated software engineer who can contribute both comprehensive network and storage knowledge and hands-on programming skill. Enjoy chasing new web techniques and seek a web-based engineering position engaged with network technology, e.g., backend engineer.

Skills

- **Programming:** Java, Android, Python, C, C++, Shell Script, MATLAB, SQLite
- **Network:** Wi-Fi, TCP/IP, Wireshark, NS2, EXata
- **System & Tools:** AWS EC2, Heroku, Cloud9, OpenStack, Vagrant, VirtualBox, Linux, Bash, Git, SVN
- **Web – Frontend:** HTML, CSS, Bootstrap, JavaScript, jQuery
- **Web – Backend:** Node.js, Express, MongoDB, MySQL
- **Language:** Mandarin, English, Japanese (N1), Taiwanese

Working Experiences

Technical consultant Flash Storage Strategy, Toshiba Memory Corporation — Tokyo, Japan

- New business development for NVMeoF storage software targeting in high performance IOs in data centers — 2017.07 - Present
  - Coordinate cross-functional teams to identify potential system partners and customers, translate insight into product development and PoC evaluation, and receive customer buy-in.
  - Establish the demo system, present it in exhibitions, educate the users its architecture, configuration and operation of the software for customer's PoC evaluation.

Software Research Engineer Memory Research Center, Toshiba Memory Corporation — Yokohama, Japan

- Workload analysis for NVM (non-volatile memory) [1 yr] — 2013.11 - 2017.07
  - Built a benchmark toolkit based on NVM Library (C language); benchmarked the performance in application layer, e.g. SQLite, MySQL, MongoDB, and the proprietary toolkit, with different IO access paths.
- Multicast-Multihop-based Wi-Fi content sharing platform [2.5 yr]
  - Designed and implemented a platform for content sharing on both single board computer (Ruby) and smart phone (Android); conducted experiments in a 100-node large-scale testbed.
  - Identified and pitched to strategic partners for joint R&D to scope out the economic model for commercialization.
  - Published 4 patents (pending) and an academic paper.

Software Engineer Android Mobile, ASUS Computer Inc. — Taipei, Taiwan

- Designed, implemented, tested, debugged, ported features for Android's webkit-based stock browser — 2012.11 - 2013.10
  - Implemented the Most Visited feature and enhanced it's algorithm.
  - Implemented a Chrome extension to access documents in Google Drive for syncing page with browser.
- Designed, implemented, tested, debugged, ported features for wireless settings of Android
  - Took the responsibility solving the problems from all wireless functions including Wi-Fi, Bluetooth, Wi-Fi Direct and hotspot tethering in application layer (platforms: Qualcomm, MTK, Intel and NVIDIA).
  - Implemented a feature to let user block certain APs to avoid annoying messages.

Special Research Student Asami & Kawahara Lab, The University of Tokyo — Tokyo, Japan

- Wireless communication protocols for high-speed trains (collaborating with Central Japan Railway) — 2010.10 - 2011.09
  - Conducted behavior analysis of TCP/UDP traffics, designed and implemented an emulator for reproducing a similar high-speed environment. Published 1 academic paper.

Research Assistant Wireless Mobile Network Lab, National Taiwan University — Taipei, Taiwan

- Accelerometer-assisted adaptive 802.11 for public transportation system — 2008.10 - 2010.09
  - Led a project to design and implement a system utilizing train's acceleration info to enhance rate adaptation, conducted experiments on Taipei MRT to test the performance (1.6x throughput gain and 50% energy save). Published 2 academic papers.

Educations

- M.S. in Electrical Engineering graduate institute, National Taiwan University (Wireless Mobile Network Lab) 2008.09 - 2011.09
- Special Research Student in The University of Tokyo (Asami Kawahara Lab) 2010.09 - 2011.08
- B.S. in Electrical Engineering, National Taiwan University 2004.09 - 2008.06

Coding Side Projects

Project 1 : Color Guessing Game	A pure frontend game (no network needed). The app gives a RGB value and let the user guess the corresponding color. The user receives the final score according to the remaining time and the correct ratio.	**Frontend:** HTML, CSS, JavaScript **Deploy:** GitHub Pages **URL:** https://ianlai.github.io/ **GitHub:** https://github.com/ianlai/ianlai.github.io
Project 2: Taiwan Spot	Server-side rendering website (Full-Stack). The website lets users register an account and then send a post to introduce a visiting spot. Other users can comment on the posts. The posts and comments can be edited or deleted by the user who owns them. The website supports responsive design, so different screen sizes can have their suitable views.	**Frontend:** HTML, CSS, JavaScript, Bootstrap **Backend:** Node.js, Express, MongoDB **Deploy:** Heroku, mLab **URL:** https://taiwanspots.herokuapp.com/ **GitHub:** https://github.com/ianlai/taiwan-spots
Project 3: Ajax Todo List	Client-side rendering single page app (Full-Stack). The user can add, toggle status, and delete a todo event in a single web page without reload. The server hosts the entry page and the Rest APIs. Once the entry page is loaded, the client sends Ajax request to the APIs to retrieve the data in the database and render the page with JSON response.	**Frontend:** HTML, CSS, JavaScript, jQuery, Ajax **Backend:** Node.js, Express, MongoDB **Deploy:** Heroku, mLab **URL:** http://ajaxtodolist.herokuapp.com/ **GitHub:** https://github.com/ianlai/ajax-todo-list
Project 4: Java Coding	To keep polishing the skills of common algorithm and data structure with Java, I created a repository and wrote over 200 java examples which covers the topics including linked list, tree, math, string, bit manipulation, sorting, dynamic programming, backtracking, etc. Besides, it also contains some experiment results, e.g., performance comparison between different sorting schemes, performance comparison between different sizes of the array in a hash map.	**Language:** Java **GitHub:** https://github.com/ianlai/Note-Java

Publications

- **Yu-Jen Lai**, Youyang Ng, Takeshi Sakoda, Yosuke Bando, Arata Miyamoto, Masahiro Ishiyama, Ken-ichi Maeda, Yusuke Doi, "Real and Simulator Testbeds for Content Dissemination in High-density Large-scale WANET", IEEE Consumer Communications & Networking Conference (CCNC), January 2017 — 2017.01
- **Yu-Jen Lai**, Wei-Hao Kuo, Wan-Ting Chiu, Hung-Yu Wei, "Accelerometer-Assisted 802.11 Rate Adaptation on Mobile WiFi Access", EURASIP Journal on Wireless Communications and Networking, August 2012 — 2012.08
- Kazuto Shimizu, **Yu-Jen Lai**, Kazuhiro Yamada, Yoshihiro Kawahara, and Tohru Asami, "Design and Evaluation of an Emulator for High Speed Mobile Communication Environment Based on IEEE 802.11g", Technical Report of IEICE (Japanese), March 2011 — 2011.03
- **Yu-Jen Lai**, Wei-Hao Kuo, Wan-Ting Chiu, Shao-Ting Chang, Hung-Yu Wei, "Accelerometer-Assisted 802.11 Rate Adaptation on Mass Rapid Transit System", ACM SIGCOMM (poster), August 2010 — 2010.08