

Chenguang Liu

Department of Electrical and Computer Engineering, The University of Texas at Austin
liuchg@utexas.edu • +1 (512) 718-3850 • www.liuchg.com
2501 Speedway, EER 7.852 • Austin • Texas • 78712

Education

The University of Texas at Austin

AUSTIN, TEXAS

Ph.D. in Software Engineering

Aug. 2014 – Jan. 2020

Advisor: Christine Julien, Area: Mobile Systems & Sensor Network

Engineering Programming Languages(C++), Advanced Programming Tools, Distributed Systems, Computer Architecture, Communication Complexity, Software Evolution ...

Peking University

BEIJING, CHINA

M.E. in Software Engineering

Sep. 2011 – Jun. 2014

Advisor: Huiping Lin. Research Area: Context-aware Systems.

Courses: Advanced Operating System, Middleware, Design Patterns, Algorithm Analysis...

Beijing Jiaotong University

BEIJING, CHINA

B.E. in Software Engineering

Sep. 2007 – Jun. 2011

Courses: Programming Languages(Java, C/C++), Data Structure, Computer Network

First-Author Publications [†]

1. C. Liu, J. Hua, T. Kalbarczyk, S. Lee, and C. Julien, "Dataset: User side acquisition of People-Centric sensing in the Internet-of-Things," in *Second Workshop on Data Acquisition To Analysis at Embedded Networked Sensor Systems (SenSys)*, (New York, NY), pp. 10–12, ACM, 2019
2. C. Liu, J. Hua, and C. Julien, "Scents: Collaborative sensing in proximity IoT networks," in *IEEE International Conference on Pervasive Computing and Communications(PerComw)*, (Kyoto, Japan), pp. 189–195, 2019
3. C. Liu, J. Hua, C. Hu, and C. Julien, "Stacon: Self-stabilizing context neighborhood for mobile IoT devices," in *IEEE International Conference on Pervasive Computing and Communications (PerCom Demo)*, (Kyoto, Japan), pp. 361–363, 2019
4. C. Liu, C. Julien, and A. Murphy, "Pinch: Self-organized context neighborhoods for smart environments," in *IEEE International Conference on Self-Adaptive and Self-Organizing Systems(SASO)*, (Trento, Italy), pp. 120–129, 2018
5. C. Julien, C. Liu*, A. Murphy, and G. P. Picco, "Blend: Practical continuous neighbor discovery for bluetooth low energy," in *ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN)*, (Pittsburgh, PA), pp. 105–116, 2017
6. C. Liu and C. Julien, "Pervasive context sharing in magpie: Adaptive trust-based privacy protection," in *International Conference on Mobile Computing, Applications, and Services*, (Berlin, Germany), pp. 122–139, 2015
7. C. Liu, H. Lin, and Y. Xiong, "A web service recommendation approach based on situation awareness," in *IEEE International Conference on Service Computing(SCC)*, (Santa Clara, CA), pp. 432–437, 2013

Internship Experience

Google LLC.

Sunnyvale, California

Software Engineering Intern

May 2019 – August 2019

Interned in the *Network Infrastructure* team. Design and implemented a traffic log processing system for Google's datacenter network. Analyzed and tuned configurations of a next generation traffic collector toward better performance.

Languages: C++, Python, SQL. Tech: Parallel data processing, database, Colab, file system.

Google LLC.

Mountain View, California

Software Engineering Intern

May 2018 – August 2018

Interned in the *Play commerce infrastructure* team. Implemented micro-services for evaluating refund transactions, redesigned storage pipeline, and remodeled evaluation simulator using *anonymized* history data.

[†] Full list at www.liuchg.com

Tech: Async Java, producer graph, micro services, NoSQL database, Guice dependency injection.

Google INC.

Mountain View, California

Software Engineering Intern

May 2017 – August 2017

Interned in the *Gmail Ads infrastructure* team. Implemented a user event logging pipeline in the AdServer. Using this new data source, I established a scoring feature based iterative training system to *rank* the user received promotional emails in the *Gmail Top Promo* section.

Tech: Supervised machine learning, parallel data processing, producer graph, logging, file system.

IBM - The China Systems and Technology Lab

Beijing, China (ibm.com/cdl)

Software Engineering Intern

August 2011 – November 2011

Interned in the zOS management facilities group. Contributed to develop the web version of management facilities for the Z-series mainframes, later participated in integration testing.

Ericsson

Beijing, China (ericsson.com/cn)

Software Engineering Intern

March 2011 – July 2011

Developed the Margin Analysis System which promptly evaluates the potential defects of developing radio base stations.

Non-Research Projects

Automatic Bazel Migration

Course Work (Software Evolution)

Developed a migration tool that automatically translates the build system of a software project from Apache Maven to Google's Bazel.

Tested our tool with 15 open source projects to show the merits of migration automation.

(Language used: Bash and Python. Env.: Emacs)

C++ STL and template metaprogramming

Course Work (Engr. Programming Languages)

Implemented a Vector template class similar to `std::vector`.

Designed an event-driven simulator of life forms to simulate moving, hunting, spawning and collision using concepts in OOP.

Implemented a Valarray template class using the concept of proxies and SFINAE to perform computation at compile-time and to reduce run-time overhead.

(Language used: C++. Env.: g++)

Mobile apps

Misc.

Developed some iOS/Android applications during spare time. Below are two examples:

TOEFL Assistant: this app was developed to help a friend to better prepare for the TOEFL speaking section and vocabulary building. I implemented some interesting features like button-free.

Expense \$plitter: this app aims to help people who live together to split their bills(e.g. utility) and living expenses (grocery/commodity costs) evenly and wisely. It also provides task planning and spending analyzer tools to ease the burden of managing shared expenses.

(Language used: ObjC, Java. Env.: XCode, Android Studio)

Teaching Experience(TA)

EE382V-Advanced Programming Tools

Instructor: Christine Julien
Fall 2017, Fall 2019, UTAustin

EE382V-Mobile Computing

Instructor: Christine Julien
Fall 2016, Fall 2018, UTAustin

EE461L-Software Engineering and Design Laboratory

Instructor: Christine Julien
Spring 2015, UTAustin

0C101-Software Component and Middleware

Instructor: Huiping Lin
Fall 2012, Spring 2012, Peking Univ.

Skills

Programming languages: Love C++. Proficient in Java/Python/Bash/C/Go/ObjC.

Tools/Platforms: Linux, Emacs, Eclipse, Android Studio, IntelliJ, XCode, L^AT_EX.