Bowen Cai

www.caibowen.com   bowen.cai@tamu.edu

Chinese with F1 Visa
Texas A&M University, College Station
Mobile: 979-985-6333

Education	**Master of Science in Computer Science**, Texas A&M University, U.S.A.	Jan 2016 – Dec 2017
	GPA: 3.38, Advisor: Dr. Jeff Huang.	
	Exchange student at Delft University of Technology, the Netherlands.	Oct 2014 – Mar 2015
	B.E. in Software Engineering.	Sep 2011 – Jun 2015
	Northwestern Polytechnical University, P.R. China GPA: 84/100, top 10%.	

Skills

Proficient in **Scala**, **C++**, good at **Python**, **C#.**
Work experience with **MySQL, Java EE,** and **HTML5**.
Experience in **LLVM** (research projects), **GTest**, **TestNG, cryptography, network programming.**
Basic Client-side develop skills with **Qt**, **Swing**, **Android.**
Good communication skills.

Experience

Internship at **Alibaba-Inc**, server-side Java developer.   July – Oct 2014
- Improved Wangqi 2.0, added new interfaces.
- In WangXin 3.0 project, I implemented commenting and voting functions, designed and implemented admin console.
- Got return offer after internship.

Internship at **Zhuoyuan Information Technology**, front-end developer.   Jul – Aug 2013
Presented and synced form data using ExtJS and Spring framework.

RoboCup 3D Simulation Team, developer.   Aug – Dec 2012
Developed robot player's movement function to improve its speed and stability.

Projects

- Research in Program Analysis and Concurrent Bug Detection:
  1. Shiyou Huang, **Bowen Cai**, Jeff Huang. Towards Production-Run Heisenbugs Reproduction on Commercial Hardware. USENIX ATC2017. I implemented Ball-Larus path profiling in LLVM and tested it on several large programs.
  2. **Bowen Cai**. Code Parallelization through Sequential Code Search. Student Research Competition, ICSE 2016. I implemented a prototype code search engine.
  3. Implemented and tested a new redundant event filter for ThreadSanitizer.
  4. Developed a use-after-free detector for multi-threaded programs on LLVM.
- Advanced Compiler Design class: developed several code optimization algorithms
- CodeSniffer: source code analyze framework with a fast and accurate code similarity search engine (based on Decard, a tree-based code clone detector).
- PRMA: program runtime monitor and analyze, it is a distributed logging backend server for monitoring application servers and localizing bugs, implemented in Scala with AKKA.
- Slingshot: A simple functional language implemented in C#.
- eBay-like online C2C (Spring 2014): As the leader of a 13-men team, we developed a complete online C2C shopping website, including searching, transaction, advertising, and admin consoles for seller/buyer.
- Gplume (Fall 2013): Designed and implemented a Java (Scala) web framework (similar to Springframework), it supports dependency injection, JSP, JSON, JDBC, Web MVC, etc. Several websites were built using my framework.
- Some other fun spare-time programs on Github.