

# Bowen Cai

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| <b>Education</b>  | <b>Master of Science in Computer Science</b> , Texas A&M University, U.S.A.<br>GPA: 3.38, Advisor: Dr. Jeff Huang.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Jan 2016 – Dec 2017 |
|                   | <b>Exchange student</b> at the Delft University of Technology, the Netherlands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Oct 2014 – Mar 2015 |
|                   | <b>B.E. in Software Engineering</b> .<br>Northwestern Polytechnical University, P.R. China GPA: 84/100, top 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sep 2011 – Jun 2015 |
| <b>Skills</b>     | Proficient in <b>Scala</b> , <b>C++</b> , good at <b>Python</b> , <b>C#</b> .<br>Work experience with <b>MySQL</b> , <b>Java EE</b> , and <b>HTML5</b> .<br>Experience in <b>LLVM</b> (research projects), <b>GTest</b> , <b>TestNG</b> , <b>cryptography</b> , <b>network programming</b> .<br>Basic Client-side develop skills with <b>Qt</b> , <b>Swing</b> , <b>Android</b> .<br>Good communication skills.                                                                                                                                                                                                                                                      |                     |
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| <b>Experience</b> | Internship at <b>Alibaba-Inc</b> , server-side Java developer, got a return offer.<br>1. Improved Wangqi 2.0, added new interfaces.<br>2. In WangXin 3.0 project, I implemented commenting and voting functions, designed and implemented admin console.                                                                                                                                                                                                                                                                                                                                                                                                             | July – Oct 2014     |
|                   | Internship at <b>Zhuoyuan Information Technology</b> , front-end developer.<br>presented and synced data using ExtJS and Springframework.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Jul – Aug 2013      |
|                   | <b>RoboCup 3D Simulation Team</b> , developer.<br>program robot players, improve its speed and stability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Aug – Dec 2012      |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| <b>Projects</b>   | Research in Program Analysis and Concurrent Bug Detection:<br>1. Shiyu Huang, <b>Bowen Cai</b> , 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.<br>2. <b>Bowen Cai</b> . Code Parallelization through Sequential Code Search. Student Research Competition, ICSE 2016. I implemented a prototype code search engine (Github CodeSniffer)<br>3. Implemented and tested a new redundant event filter for ThreadSanitizer (Github Tree-CPP).<br>4. Developed a use-after-free detector for multithreaded programs on LLVM. |                     |
|                   | Advanced Compiler Design Course: developed several code optimization algorithms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
|                   | Program runtime monitor and analyze, it is a distributed logging backend server for monitoring application servers and localizing bugs, implemented in Scala with AKKA (Github PRMA).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |
|                   | Slingshot: A simple functional language implemented in C# (Github Slingshot).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |
|                   | eBay-like online C2C (Spring 2014): As the leader of a 13-man 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 (Github Gplume).                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |
|                   | Some other fun spare-time programs on Github.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |
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