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| **Changjian (CJ) Zhang** | **Email** [changjiz@andrew.cmu.edu](mailto:changjiz@andrew.cmu.edu)  **Tel** 412-519-6014 | **GitHub** <https://github.com/SteveZhangBit>  **Website** <https://stevezhangbit.github.io> |
| *My research mainly focuses on* ***software architecture****,* ***software quality****, and* ***formal methods****. My goal is to develop methodologies and tools to help developers to systematically design and build software systems that are* ***safe*** *and* ***robust****.* | | |

**EDUCATION**

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| **Carnegie Mellon University, School of Computer Science**  Ph.D. in Software Engineering | Pittsburgh, PA  Aug 2019 – May 2025 |
| **Carnegie Mellon University, School of Computer Science**  M.S. in Information Technology (Software Engineering) | Pittsburgh, PA  Aug 2017 - Aug 2018 |
| **Beijing Institute of Technology**  B.S. in Computer Science and Technology | Beijing, China  Sept 2012 - Jun 2016 |

**RESEARCH & PUBLICATIONS**

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| * **System Designs Robustification against Environmental Deviations. (Under review)**   **Changjian Zhang**, Tarang Saluja, Romulo Meira Goes, Matthew Bolton, David Garlan, Eunsuk Kang. 2022. |
| * [**AlloyMax: bringing maximum satisfaction to relational specifications.**](https://doi.org/10.1145/3468264.3468587)   **Changjian Zhang**, Ryan Wagner, Pedro Orvalho, David Garlan, Vasco Manquinho, Ruben Martins, and Eunsuk Kang. (ESEC/FSE 2021). **🏆 ACM SIGSOFT Distinguished Paper Award.** |
| * [**A behavioral notion of robustness for software systems.**](https://doi.org/10.1145/3368089.3409753)   **Changjian Zhang**, David Garlan, and Eunsuk Kang. (ESEC/FSE 2020). |
| * [**Safe Run-time Reconfiguration for Event-driven Systems with Pub/Sub in ROS.**](http://acme.able.cs.cmu.edu/pubs/uploads/pdf/ROSReconfig-submitted.pdf)   **Changjian Zhang**, Eunsuk Kang, David Garlan. 2018. |

**WORK EXPERIENCE**

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| **Carnegie Mellon University, Institute for Software Research**  **Research Associate & Teaching Assistant** | Pittsburgh, PA  Aug 2018 - Aug 2019 |
| * Researched in the CMU ABLE Group on Self-adaptive Systems and Robotic Operating System (ROS). * Served as a TA for 17-651 Models for Software Systems and 17-655 Software Architecture. | |
| **NASA Jet Propulsion Laboratory FPrime Project**  **Team Lead & SDE** | Pittsburgh, PA  Jan 2018 - Aug 2018 |
| * Designed and implemented a visualization tool using Typescript, Vue.js, and Electron for the JPL FPrime Framework used for the NASA Mars Mission. Largely improved their development efficiency. * Managed the team Scrum process, project planning, and project tracking process. | |
| **PingCAP TiDB - A Distributed NewSQL Database**  **Contributor** | Chengdu, China  Jun 2017 - Aug 2017 |
| * Contributed functions to the TiDB Database system using Golang. Reported issues to the community on GitHub. | |
| **Baidu Inc. Nuomi Movie Department**  **SDE Intern** | Beijing, China  Sept 2015 - Jan 2016 |
| * Developed and refactored a system to match massive ticket orders between different movie databases by using Python and Pandas. Improved the efficiency of their business process by 10 times. * Built a web-based interface for marketing people to replace their manual business process by using Python and Flask. Reduced their business processing time from weeks to hours. * Collected ticket data using web-spiders with Python and Scrapy and Analyzed the data using Pandas to support marketing. | |
| **Taoxue (Online Second-hand Market Startup)**  **Co-Founder & Tech Lead** | Beijing, China  May 2014 - Feb 2015 |
| * Developed the back-end of the system using Java, Spring, and Hibernate, and the iOS App with Objective-C. * Built a web-based administrative management system using JavaScript and Bootstrap. * Raised 200,000RMB angle investment and Obtained thousands of users among many universities. | |

**AWARDS**

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| * ACM SIGSOFT Distinguished Paper Award at ESEC/FSE 2021. * 2018 CMU Master of Software Engineering Program Graduate Fellowship. * Beijing Institute of Technology 2nd-class Scholarship (2013, 2014), 3rd-class Scholarship (2015). |

**SKILLS**

**Programming Languages:** Kotlin/Java ≈ Python > JavaScript/TypeScript, HTML/CSS > GO > C.

**Model Checking Tools:** Alloy ≈ LTSA ≈ Prism ≈ TLA+ > Z > Spin.