Changjian (CJ) Zhang

changjiz@andrew.cmu.edu
https://stevezhangbit.github.io/
+1-412-519-6014

*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

Carnegie Mellon University, School of Computer Science   Pittsburgh, PA
Ph.D. in Software Engineering   Aug 2019 – Aug 2024
Advisors: Dr. Eunsuk Kang and Dr. David Garlan

Carnegie Mellon University, School of Computer Science   Pittsburgh, PA
M.S. in Information Technology (Software Engineering)   Aug 2017 - Aug 2018

Beijing Institute of Technology   Beijing, China
B.S. in Computer Science and Technology   Sept 2012 - Jun 2016

EMPLOYMENT

Amazon.com Inc   Phoenix, AZ
SDE Intern   May 2023 – Aug 2023

Carnegie Mellon University, Institute for Software Research   Pittsburgh, PA
Research Associate & Teaching Assistant   Aug 2018 - Aug 2019

Baidu Inc. Nuomi Movie Department   Beijing, China
SDE Intern   Sept 2015 - Jan 2016

Taoxue (Online Used Marketplace Startup)   Beijing, China
Co-Founder & Tech Lead   May 2014 - Feb 2015

PUBLICATIONS

Fortis: A Tool for Analysis and Repair of Robust Software Systems.
Changjian Zhang, Ian Dardik, Rômulo Meira-Góes, David Garlan, Eunsuk Kang. (FMCAD 2023)

Runtime Resolution of Feature Interactions through Adaptive Requirement Weakening.
Simon Chu, Emma Shedden, **Changjian Zhang**, Rômulo Meira-Góes, Gabriel Moreno, David Garlan, and Eunsuk Kang. (SEAMS 2023).

Robustification of Behavioral Designs against Environmental Deviations.
Changjian Zhang, Tarang Saluja, Romulo Meira Goes, Matthew Bolton, David Garlan, and Eunsuk Kang. (ICSE 2023).

AlloyMax: bringing maximum satisfaction to relational specifications.
Changjian Zhang, Ryan Wagner, Pedro Orvalho, David Garlan, Vasco Manquinho, Ruben Martins, and Eunsuk Kang. (ESEC/FSE 2021). 🏆 **ACM SIGSOFT Distinguished Paper Award.**

Automated synthesis of minimal hardware exploits with Checkmate and MaxSAT Solver.

Changjian Zhang, Ruben Martins, Marijn J.H. Heule, and Eunsuk Kang. (MaxSAT Evaluation 2020).

A behavioral notion of robustness for software systems.
Changjian Zhang, David Garlan, and Eunsuk Kang. (ESEC/FSE 2020).

Safe Run-time Reconfiguration for Event-driven Systems with Pub/Sub in ROS.
Changjian Zhang, Eunsuk Kang, and David Garlan. 2018.

TEACHING

17-214: Principles of Software Construction: Objects, Design, and Concurrency Fall 2022
TA for 135 undergraduate and master's students
Graded homework assignments, developed and refined course materials, and held recitations and office hours.

17-640: IoT, Big Data, and ML: A Hands-on Approach Summer 2019
TA/Co-Instructor for 31 master's students
Managed and maintained course equipment (IoT devices), graded lab assignments, and held recitations.

17-655: Architectures for Software Systems Spring 2019
TA for 51 master's students
Graded homework assignments and exams, held recitations and office hours.

17-651: Models of Software Systems Fall 2018
TA/Co-Instructor for 44 master's students
Graded homework assignments and exams, developed course materials and gave lectures, and held recitations and office hours.

MENTORSHIPS

Eric Liu	Undergraduate student at UIUC.	Summer 2022
Tarang Saluja	Undergraduate student at Swarthmore College.	Summer 2021
Paul Smith	Undergraduate student at St. Mary's University.	Summer 2021
Choi Sang	Undergraduate student at Rose-Hulman Institute of Technology.	Summer 2020
Katherine Braught	Undergraduate student at Iowa State University, now Ph.D. at UIUC.	Summer 2020
Lucy Wang	Undergraduate student at CMU.	Summer 2020

AWARDS

ACM SIGSOFT Distinguished Paper Award at ESEC/FSE 2021	2021
2018 CMU Master of Software Engineering Program Graduate Fellowship	2018
Beijing Institute of Technology Scholarship	2013-2015

SERVICES

Reviews

SEAMS: Symposium on Software Engineering for Adaptive and Self-Managing Systems	2023
TOSEM: Transactions on Software Engineering and Methodology	2022
ICSA: International Conference on Software Architecture	2021
ECSA: European Conference on Software Architecture	2020

Misc

CMU ISR Ph.D. Admission Committee	2021

Updated on 08/25/2023