Changjian (CJ) Zhang

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*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 – May 2025
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

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 Second-hand Market Startup) Beijing, China
Co-Founder & Tech Lead May 2014 - Feb 2015

PUBLICATIONS

System Designs Robustification against Environmental Deviations. (Under submission)
Changjian Zhang, Tarang Saluja, Romulo Meira Goes, Matthew Bolton, David Garlan, Eunsuk Kang. 2022.

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, 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, 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

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

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 09/12/2022