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| **Changjian (CJ) Zhang**  [changjiz@andrew.cmu.edu](mailto: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**

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

**Employment**

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| **Amazon.com Inc**  **SDE Intern** | Phoenix, AZ  May 2023 – Aug 2023 |
| **Carnegie Mellon University, Institute for Software Research**  **Research Associate & Teaching Assistant** | Pittsburgh, PA  Aug 2018 - Aug 2019 |
| **Baidu Inc. Nuomi Movie Department**  **SDE Intern** | Beijing, China  Sept 2015 - Jan 2016 |
| **Taoxue (Online Used Marketplace Startup)**  **Co-Founder & Tech Lead** | Beijing, China  May 2014 - Feb 2015 |

**Publications**

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| **Investigating Robustness in Cyber-Physical Systems: Specification-Centric Analysis in the face of System Deviations**  **Changjian Zhang**\*, Parv Kapoor\*, Romulo Meira-Goes, David Garlan, Eunsuk Kang, Akila Ganlath, Shatadal Mishra, Nejib Ammar |
| **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.**](https://eskang.github.io/assets/papers/SEAMS23.pdf)  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.**](https://eskang.github.io/assets/papers/icse23-robustification.pdf)  **Changjian Zhang**, Tarang Saluja, Romulo Meira Goes, Matthew Bolton, David Garlan, and Eunsuk Kang. (ICSE 2023). |
| [**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.** |
| [**Automated synthesis of minimal hardware exploits with Checkmate and MaxSAT Solver.**](https://helda.helsinki.fi/bitstream/handle/10138/318755/mse20proc.pdf?sequence=1#page=50)  **Changjian Zhang**, Ruben Martins, Marijn J.H. Heule, and Eunsuk Kang. (MaxSAT Evaluation 2020). |
| [**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, and David Garlan. 2018. |

**Teaching**

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| **17-214: Principles of Software Construction: Objects, Design, and Concurrency**  **TA for 135 undergraduate and master’s students**  Graded homework assignments, developed and refined course materials, and held recitations and office hours. | Fall 2022 |
| **17-640: IoT, Big Data, and ML: A Hands-on Approach**  **TA/Co-Instructor for 31 master’s students**  Managed and maintained course equipment (IoT devices), graded lab assignments, and held recitations. | Summer 2019 |
| **17-655: Architectures for Software Systems**  **TA for 51 master’s students**  Graded homework assignments and exams, held recitations and office hours. | Spring 2019 |
| **17-651: Models of Software Systems**  **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. | Fall 2018 |

**Mentorships**

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| Eric Liu | Undergraduate student at UIUC. | Summer 2022 |
| Tarang Saluja | Undergraduate student at Swarthmore College, now Ph.D. at UMass. | 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**

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| 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

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| 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

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| CMU ISR Ph.D. Admission Committee | 2021 |

Updated on 11/20/2023.