Kenneth H. Chan

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Education

Ph.D. in *Computer Science*, Michigan State University, East Lansing, Michigan, Present (3rd year)

M.S. in *Computer Science*, Michigan State University, East Lansing, Michigan, 2021

B.S. in *Computer Science*, Michigan State University (Honors College), East Lansing, Michigan, 2019

Professional Experience

Graduate Teaching Assistant (05/19 to Present), Department of Computer Science and Engineering, Michigan State University, East Lansing, Michigan

- Courses taught:
  - CSE435 Software Engineering (Lead TA): 7 semesters
  - CSE476 Mobile Application Development
  - CSE477 Web Development: 2 semesters
  - CSE260 Discrete Structures (Lead TA): 2 semesters
  - CSE335 Object-oriented Design
- Teaching Assistant Activities:
  - Creating student homework, projects, and exams designed to encourage students to transfer course concepts into concrete examples
  - Presenting guest lectures for machine learning, deep neural networks, computer security, and software design principles
  - Explaining core course concepts to students during project implementations

Undergraduate Learning Assistant (01/19 to 05/19), Department of Computer Science and Engineering, Michigan State University, East Lansing, Michigan

Capstone Software Engineer (09/18 to 12/18), Volkswagen, Auburn Hills, Michigan

Software Engineering Intern (05/15 to 08/15), GeoNexus Technologies, Ann Arbor, Michigan

Manuscripts and Publications

Kenneth H Chan, Shlomi Zilberman, Nicholas Polanco, and B.H.C. Cheng. SafeDriveRL: Combining non-cooperative game theory with reinforcement learning to explore and mitigate uncertainty for autonomous vehicles. 2023. In press Oct. 2023

Kenneth H Chan and B.H.C. Cheng. Expound: A black-box approach for generating diversity-driven adversarial examples. In *Proc. 15th IEEE Symposium on Search-Based Software Engineering*, San Francisco, California, 2023. Accepted in SSBSE23 - Oct. 2023

Michael Austin Langford, Kenneth H Chan, Jonathon Emil Fleck, Philip K McKinley, and B.H.C. Cheng. MoDALAS: addressing assurance for learning-enabled autonomous systems in the face of uncertainty. *Software and Systems Modeling*, pages 1–21, 2023

Kenneth H Chan and B.H.C. Cheng. EvoAttack: An evolutionary search-based adversarial attack for object detection model. In *Proc. 14th IEEE Symposium on Search-Based Software Engineering*, Singapore, 2022

Michael Austin Langford, Kenneth H Chan, Jonathon Emil Fleck, Philip K McKinley, and B.H.C. Cheng. MoDALAS: Model-driven assurance for learning-enabled autonomous systems. In *Proceedings of MODELS 2021: ACM/IEEE 24th International Conference on Model Driven Engineering Languages and Systems (MODELS)*, pages 207–216, Fukuoka, JP, 2021. Model Driven Engineering Languages and Systems. (Extended paper invited for special issue journal submission to Software and Systems Modeling (SoSyM))

Kenneth H Chan, Matthew Pasco, and B.H.C. Cheng. Towards a blockchain framework for autonomous vehicle system integrity. *SAE International Journal of Transportation Cybersecurity and Privacy Special Issue on System Safety and Cybersecurity*, 4(11-04-01-0002), 2021

Synergistic Activities

Vice President (01/17 to 12/18), MSU Leaders In IT Club, Michigan State University, East Lansing, Michigan

Treasurer (09/16 to 05/17), MSU Mason-Abbot Hall Student Government, Michigan State University, East Lansing, Michigan

Awards

Recipient of the Summer Research Fellowship from College of Engineering, Michigan State University 2023

- $7,600 research fellowship selected based on merit nomination from the college

Recipient of the Dr. Delia Koo Global Student Scholarship and Chinese Student Endowment

- $5,000 scholarship for academic excellence and promoting Asian culture diversity at Michigan State University

Recipient of the GOF Summer Research Fellowship from College of Engineering, Michigan State University 2020

- $7,000 research fellowship selected based on merit nomination from the college

Recipient of the Ford Blue Oval STEM Scholarship, Michigan Competitive Scholarship

- 4 years of annual $2,500 scholarship for strong leadership in FIRST robotics program

Recipient of the "Best Overall Design Day Award: Auto-Owners Exposition Award"

Dean's list: 2016, 2017, 2018, 2019