

Kenneth (Kira) H. Chan

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EDUCATION

- Doctor of Philosophy (Ph.D.)**, Computer Science and Engineering Dec 2025 - GPA: 4.0
Michigan State University, East Lansing, Michigan
Title: Assessing Robustness of Artificial Intelligence-based Systems in the Face of Human-based Exploitative Uncertainty
Advisor: Dr. Betty H.C. Cheng
- Master of Science (M.S.)**, Computer Science and Engineering May 2021 - GPA: 4.0
Michigan State University, East Lansing, Michigan
- Bachelor of Science (B.S.)**, Computer Science and Engineering May 2019 - GPA: 3.8
Michigan State University Honors College, East Lansing, Michigan

PROFESSIONAL EXPERIENCE

- Michigan State University** | ML / SOFTWARE ENGINEERING RESEARCHER, *East Lansing, MI* 2019 - 2025
- Implemented end-to-end pipelines using PyTorch, Hugging Face, and High-Performance Computing to empirically validate and improve the performance and robustness of ML models, leading to an 85% improvement under uncertainty.
 - Applied technologies from a number of distinct disciplines (e.g., reinforcement learning, evolutionary computing, game theory, goal modeling, etc.) to assess and improve the robustness of DNNs and software by up to 50%.
- GeoNexus Technologies** | SOFTWARE ENGINEERING INTERN, *Ann Arbor, MI* 2015
- Designed and developed a real-time analytics dashboard and mobile application in Java for Android, supporting live map-based visualization for over 2,000 customers to provide real-time updates on work location and information.

TEACHING EXPERIENCE

- Michigan State University** | INSTRUCTOR, *East Lansing, MI* 2021 - Current
- Course taught: CSE498 Collaborative Design - Secure and Efficient C++ Software Development
 - Fostered an active learning environment and provided instructions for assigned courses. This includes designing and developing lecture modules, delivering daily lectures, engaging class discussions, evaluating student work, etc.
- Michigan State University** | GRADUATE TEACHING ASSISTANT (LEVEL III), *East Lansing, MI* 2019 - 2025
- Courses taught include: Software Engineering (10 semesters); Distributed Systems (Graduate-level); Web Development; Mobile App Dev.; Object-Oriented Software Dev.; Secure and Efficient C++ Software Development; Discrete Math.
 - Presented 100+ guest lectures on various topics, such as AI/ML, software engineering, security, design principles, etc.
 - Organized, led, and trained 35+ teaching assistants and undergraduate assistants.
 - Assisted, managed, and taught classes with up to 200 students per semester (3,000+ students total).
 - Supervised the operations of up to 20 teams (5+ members each) per semester and managed their Git repos.
 - Developed 10 automated testing scripts, data analytics scripts, and statistical reports for quizzes and exams.

SELECTED PUBLICATIONS AND PROJECT EXPERIENCE

- Sol Zilberman, **Kenneth H. Chan**, and B.H.C. Cheng. EvoDriver: Novelty-search driven evolution of behavioral test suites for autonomous vehicles. *IEEE 21st Int. Sym. on Software Eng. for Adaptive and Self-Managing Systems*, 2026.
 - **Kenneth H. Chan**, Sol Zilberman, and B.H.C. Cheng. SavviDriver: Model-based framework for game-based testing of autonomous vehicles in diverse multi-agent traffic scenarios. *Software and Systems Modeling*, pp. 1-27, 2025.
 - **Kenneth H. Chan** and B.H.C. Cheng. EvoAttack: Suppressive adversarial attacks against object detection models using evolutionary search. *Journal of Automated Software Engineering*, vol. 32, no. 3, pp. 1–37, 2025.
 - **Kenneth H. Chan** and B.H.C. Cheng. Expound: A black-box approach for generating diversity-driven adversarial examples. *International Symposium on Search Based Software Engineering*, pp. 19–34. Springer, 2023
- *Additional projects, details, and publication information are available on my [Google Scholar](#) and [website](#).*

SKILLS

Programming Languages: Python, C++, C, SQL, TypeScript/JS, Bash, Matlab, Java | **Libraries:** PyTorch, ROS, Hugging Face, NumPy, Pandas, OpenGL, React, TensorFlow, Scikit-learn | **Tools:** Slurm/HPCC, Docker, Git, Linux
Expertise: Machine Learning, Data Science, Software Engineering, Requirements Engineering, Optimization, REST API
**References available upon request.*