Stanford

Robert Moss

Ph.D. Student in Computer Science, admitted Autumn 2021

Bio

BIO

Robert Moss is a computer science Ph.D. student at Stanford University studying algorithms to validate safety-critical autonomous systems. He holds an M.S. in computer science from Stanford where his research received the best computer science master's thesis award and he also received the Centennial TA award for his teaching efforts. He earned his B.S. in computer science with a minor in physics from the Wentworth Institute of Technology in Boston, MA. Robert was an associate research staff member at MIT Lincoln Laboratory where he was on the team that designed, developed, and validated the next-generation aircraft collision avoidance system for commercial aircraft, unmanned vehicles, and rotorcraft. Robert was also a research engineer at the NASA Ames Research Center, developing decision support tools for the VIPER autonomous Lunar rover mission searching for water deposits on the Moon. Robert is a member of the Stanford Intelligent Systems Laboratory, the Stanford Center for Earth Resources Forecasting, and part of the Stanford Center for AI Safety conducting research on methods for high-dimensional planning under uncertainty using low-dimensional surrogate models, autonomous vehicle risk assessment, and efficient algorithms for safety validation.

EDUCATION AND CERTIFICATIONS

- M.S., Stanford University , Computer Science (2021)
- B.S., Wentworth Institute of Technology , Computer Science (2014)

LINKS

- http://web.stanford.edu/~mossr: http://web.stanford.edu/~mossr

Research & Scholarship

LAB AFFILIATIONS

- Mykel Kochenderfer, Stanford Intelligent Systems Laboratory (9/1/2019)

Publications

PUBLICATIONS

- **Uncovering heterogeneous effects in computational models for sustainable decision-making** *ENVIRONMENTAL MODELLING & SOFTWARE*
  Kozlova, M., Moss, R. J., Yeomans, J., Caers, J.
  2024; 171

- **Formal and Practical Elements for the Certification of Machine Learning Systems**
  Durand, J., Dubois, A., Moss, R. J., IEEE
  IEEE.2023

- **A Survey of Algorithms for Black-Box Safety Validation of Cyber-Physical Systems** *JOURNAL OF ARTIFICIAL INTELLIGENCE RESEARCH*
  Corso, A., Moss, R. J., Koren, M., Lee, R., Kochenderfer, M. J.

2021; 72: 377-428

- **Certification Considerations for Adaptive Stress Testing of Airborne Software**

  Durling, M., Herencia-Zapana, H., Meng, B., Meiners, M., Hochwarth, J., Visser, N., Lee, R., Moss, R., Valapil, V., IEEE
  IEEE.2021

- **Adaptive Stress Testing of Trajectory Predictions in Flight Management Systems**

  Moss, R. J., Lee, R., Visser, N., Hochwarth, J., Lopez, J. G., Kochenderfer, M. J., IEEE
  IEEE.2020