

Stanford



Min Wu

Postdoctoral Scholar, Computer Science

Bio

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Oxford , Computer Science (2022)

STANFORD ADVISORS

- Clark Barrett, Postdoctoral Faculty Sponsor

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=KIvRCsoAAAAJ>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Responsible AI, AI safety, trustworthy AI, robustness, explainability and interpretability.

Formal methods, automated verification, verification of deep neural networks, formal explainable AI.

Publications

PUBLICATIONS

- **Towards Efficient Verification of Quantized Neural Networks**
Huang, P., Wu, H., Yang, Y., Daukantas, I., Wu, M., Zhang, Y., Barrett, C., Wooldridge, M., Dy, J., Natarajan, S.
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2024: 21152-21160
- **Parallel Verification for #-Equivalence of Neural Network Quantization**
Huang, P., Yang, Y., Wu, H., Daukantas, I., Wu, M., Jia, F., Barrett, C., Avni, G., Giacobbe, M., Johnson, T. T., Katz, G., Lukina, A., Narodytska, et al
SPRINGER INTERNATIONAL PUBLISHING AG.2024: 78-99
- **Marabou 2.0: A Versatile Formal Analyzer of Neural Networks**
Wu, H., Isac, O., Zeljic, A., Tagomori, T., Daggitt, M., Kokke, W., Refaeli, I., Amir, G., Julian, K., Bassan, S., Huang, P., Lahav, O., Wu, et al
SPRINGER INTERNATIONAL PUBLISHING AG.2024: 249-264
- **Convex Bounds on the Softmax Function with Applications to Robustness Verification** *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics*
Wei, D., Wu, H., Wu, M., Chen, P., Barrett, C., Farchi, E.
2023: 6853-6878
- **<i>Soy</i>: An Efficient MILP Solver for Piecewise-Affine Systems**
Wu, H., Wu, M., Sadigh, D., Barrett, C., IEEE
IEEE.2023: 6281-6288

- **VERIX: Towards Verified Explainability of Deep Neural Networks**
Wu, M., Wu, H., Barrett, C., Oh, A., Neumann, T., Globerson, A., Saenko, K., Hardt, M., Levine, S.
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2023
- **Full Poincare polarimetry enabled through physical inference** *OPTICA*
He, C., Lin, J., Chang, J., Antonello, J., Dai, B., Wang, J., Cui, J., Qi, J., Wu, M., Elson, D. S., Xi, P., Forbes, A., Booth, et al
2022; 9 (10): 1109-1114
- **A survey of safety and trustworthiness of deep neural networks: Verification, testing, adversarial attack and defence, and interpretability?** *COMPUTER SCIENCE REVIEW*
Huang, X., Kroening, D., Ruan, W., Sharp, J., Sun, Y., Thamo, E., Wu, M., Yi, X.
2020; 37
- **A game-based approximate verification of deep neural networks with provable guarantees** *THEORETICAL COMPUTER SCIENCE*
Wu, M., Wicker, M., Ruan, W., Huang, X., Kwiatkowska, M.
2020; 807: 298-329
- **Robustness Guarantees for Deep Neural Networks on Videos**
Wu, M., Kwiatkowska, M., IEEE
IEEE.2020: 308-317
- **Assessing Robustness of Text Classification through Maximal Safe Radius Computation** *Findings of the Association for Computational Linguistics: EMNLP 2020*
La Malfa, E., Wu, M., Laurenti, L., Wang, B., Hartshorn, A., Kwiatkowska, M.
2020: 2949-2968
- **Gaze-based Intention Anticipation over Driving Manoeuvres in Semi-Autonomous Vehicles**
Wu, M., Louw, T., Lahijanian, M., Ruan, W., Huang, X., Merat, N., Kwiatkowska, M., IEEE
IEEE.2019: 6210-6216
- **Global Robustness Evaluation of Deep Neural Networks with Provable Guarantees for the Hamming Distance** *Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence*
Ruan, W., Wu, M., Sun, Y., Huang, X., Kroening, D., Kwiatkowska, M.
2019: 5944-5952
- **Concolic Testing for Deep Neural Networks**
Sun, Y., Wu, M., Ruan, W., Huang, X., Kwiatkowska, M., Kroening, D., Huchard, M., Kastner, C., Fraser, G.
IEEE.2018: 109-119
- **Safety Verification of Deep Neural Networks**
Huang, X., Kwiatkowska, M., Wang, S., Wu, M., Majumdar, R., Kuncak
SPRINGER INTERNATIONAL PUBLISHING AG.2017: 3-29