

# Stanford

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## Min Wu

Postdoctoral Scholar, Computer Science

### Bio

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#### PROFESSIONAL EDUCATION

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

#### STANFORD ADVISORS

- Clark Barrett, Postdoctoral Faculty Sponsor

#### LINKS

- Personal Website: <https://cs.stanford.edu/~minwu/>
- Google Scholar: <https://scholar.google.com/citations?user=KlvRCsoAAAAJ>

### Research & Scholarship

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#### 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

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#### PUBLICATIONS

- **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  
edited by Ganesh, Gurfinkel, A.  
SPRINGER INTERNATIONAL PUBLISHING AG.2024: 249-264
- **Towards Efficient Verification of Quantized Neural Networks**  
Huang, P., Wu, H., Yang, Y., Daukantas, I., Wu, M., Zhang, Y., Barrett, C.  
edited by Wooldridge, M., Dy, J., Natarajan, S.  
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2024: 21152-21160
- **Parallel Verification for  $\delta$ -Equivalence of Neural Network Quantization**  
Huang, P., Yang, Y., Wu, H., Daukantas, I., Wu, M., Jia, F., Barrett, C.  
edited by Avni, G., Giacobbe, M., Johnson, T. T., Katz, G., Lukina, A., Narodytska, N., Schilling, C.  
SPRINGER INTERNATIONAL PUBLISHING AG.2024: 78-99
- **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.

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2023: 6853-6878

- **VERIX: Towards Verified Explainability of Deep Neural Networks**

Wu, M., Wu, H., Barrett, C.

edited by Oh, A., Neumann, T., Globerson, A., Saenko, K., Hardt, M., Levine, S.

NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2023

- **<i>Soy</i>: An Efficient MILP Solver for Piecewise-Affine Systems**

Wu, H., Wu, M., Sadigh, D., Barrett, C., IEEE

IEEE.2023: 6281-6288

- **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.

edited by Huchard, M., Kastner, C., Fraser, G.

IEEE.2018: 109-119

- **Safety Verification of Deep Neural Networks**

Huang, X., Kwiatkowska, M., Wang, S., Wu, M.

edited by Majumdar, R., Kuncak

SPRINGER INTERNATIONAL PUBLISHING AG.2017: 3-29