Dr. John Engelsted Hester

Location: Austin, Texas
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Nationality: U.S. citizen

Experience

2025 Algorithmic Trading Platform Development
Created Longleaf, a modern high performance algorithmic trading platform. This platform allows users to define and execute their own strategies, with an entirely open source backend that supports different brokerages and data providers. Contributions to the Guix operating system and package manager.

2021-2024 Senior Research and Development Engineer, Imandra
Project leader for program discovery and testing as part of DARPA contracts. Built a transpiler for verifying properties of trading venues, used to formally verify the behavior of venues used by quantitative trading firms. Designed a transpiler for the SysML v2 modeling language. Led a team of three to create a hallucination-free chatbot for interacting with SysML v2 models using large language models.

2019-2021 Graduate Research, University of Florida
Developed Etableau, an AI automated reasoning tool for first-order logic. In its time, it was the most powerful first order logic AI theorem prover developed in the USA.

Skills

Python, OCaml, C, Javascript, Git, Docker, Linux, Guix, Nix, Lisp

Education

2021 PhD in Mathematics, University of Florida

Publications

2024 Towards the Formal Verification of SysML v2 Models (MODELS Companion '24).
2023 Revisiting Variable Ordering for Real Quantifier Elimination using Machine Learning.
2021 Novel Methods for First Order Automated Theorem Proving (Dissertation).
2021 Etableau: Combining Tableaux and Superposition (Submitted to JAR).
2020 Alternating Path Relevance for First Order Theorem Proving (Arxiv).
2019 Automated ZFC Theorem Proving with E (Proceedings of ARCADE 2019).
2017 Metaphysics in Mathematics (Arxiv).