Paul Gustafson
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Interests

Functional programming, formal verification, category theory, topological quantum computation, machine learning

Programming Languages

Haskell, Agda, Coq, Python, C, Java, MATLAB, NetLogo

Work Experience

Texas A&M University 2013 – Present
PhD Candidate, Department of Mathematics

- Proved conjecture on anyon suitability for topological quantum computation
- Created Haskell library for computing with quantum mapping class group representations
- Mentored four undergraduates in conducting research projects
- Taught 60-student Calculus class

Knowledge Based Systems, Inc. June 2011 – September 2012
Programmer Analyst Summer 2008, Summer 2010

- Co-secured $825,000 Phase II SBIR grant by developing a wireless sensor network cybersecurity simulator in Java and NetLogo
- Researched, designed, and implemented simulation features for various network topologies, routing protocols, attack types, power consumption profiles, and anomaly detection systems

Education

Texas A&M University 2013 – Present
Doctor of Philosophy in Mathematics August 2018 (Expected)

- Field of study: Quantum mapping class group representations
- Advisor: Eric Rowell

Texas A&M University 2012 – 2013
Bachelor of Science in Mathematics 2013

- Madhava Prize in Analysis

Princeton University 2007 – 2011

- Manfred Pyka Memorial Prize in Physics