Paul Gustafson
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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 undergraduates in conducting research projects
- Instructor for 60-student Calculus class

Knowledge Based Systems, Inc. 2008 - 2012
Programmer Analyst

- Secured $825,000 Phase II SBIR grant by co-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
- Designed and implemented exporter from a proprietary file format into UML (an open XML-based file format)

Programming Languages

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

Education

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

- Field of study: Mapping class group representations from TQFTs
- 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

Interests

Machine learning, quantum computing, type theory, weightlifting, piano, judo