Graham Enos

Summary

More than 15 years of mathematical research, software engineering, and education experience; extensive experience in machine learning, data science, analysis and visualization; previously held Top Secret/SCI clearance; passed special background investigation, full scope polygraph.

Relevant Experience

2023–present

Vice President of Quantum Solutions, Strangeworks, Washington, DC

- Combining artificial intelligence and quantum computing subject matter expertise with software development, project management, and data analysis on a number of client engagements

2020–2023

Lead Research Scientist, Quantum Advantage, Rigetti Computing, Washington, DC

- Principal investigator for multiple projects using near-term quantum processing units for machine learning tasks

- Developed software in Python, Rust, and Common Lisp as part of a team using modern software engineering best practices for a variety of tasks, including machine learning pipelines, compilers, and synthetic data generation

- Published findings in 3rd Workshop on Artificial Intelligence for Humanitarian Assistance and Disaster Response at NeurIPS 2021, on the arXiv, and on company blog

2016–2020

Senior Data Scientist, Quantifind, Inc., Washington, DC

- Conducted literature review and original research to answer open-ended questions prompted by product and stakeholder requests

- Developed novel machine learning models in Python and R, then integrated them into a monolithic multi-developer Scala code base, conducted unit and integration testing, issued and responded to code reviews, adhered to software engineering best practices, deployed at scale

- Incorporated new data sources into our product stack, administered PostgreSQL databases

2012–2016

Applied Research Mathematician, Department of Defense, Fort Meade, MD

- Received cash award in 2013 for saving an immense amount of time, effort, and money by advocating for continuous integration and developing an internal tool that drastically shortened development feedback loop for a large scale, multi-developer, mission-critical high performance computing project

- Researched state of the art in automatic language-independent text summarization, then developed, documented, and tested a new text summarization algorithm

- Examined, extracted, cleaned, explored, visualized, and modeled data from multiple, disparate sources of varying consistency and quality using a variety of statistical techniques and analytical tools

- Trained in data mining, machine learning, cryptanalysis, computer security, information assurance, computer network exploitation, software reverse engineering

- Authored internal technical/mathematical papers and software tools to advance the state of the art in language-independent text summarization, anomalous object detection in large data sets, and public key cryptography

Education

2009–2013   Ph.D. in Applied Mathematics, *University of North Carolina at Charlotte*, Charlotte, NC
Wrote and defended dissertation "Binary Edwards Curves and Elliptic Curve Cryptography" while working full time as an Applied Research Mathematician at the U.S. Department of Defense; Dr. Yuliang Zheng & Dr. Gabor Hetyei, advisors

2003–2007   B.A. in Mathematics & Philosophy, *Bates College*, Lewiston, ME
3.93 GPA; graduated Summa Cum Laude, Phi Beta Kappa, & Sigma Xi

Publications

- Graham Enos, Matthew Reagor, and Eric Hulburd. *Evaluating quantum generative models via imbalanced data classification benchmarks.* arXiv, https://arxiv.org/abs/2308.10847.

- Graham Enos, et. al.. *Synthetic weather radar using hybrid quantum-classical machine learning.* NeurIPS 2021 AI+HADR Workshop, www.hadr.ai/previous-years/2021/accepted-papers-2021.

- Graham Enos and Yuliang Zheng. *An id-based signcryption scheme with compartmented secret sharing for unsigncryption.* Information Processing Letters, 115(2):128 – 133, 2015.

- Graham Enos. *Complete and unified group laws are not enough for elliptic curve cryptography.* Cryptology ePrint Archive, Report 2013/015, 2013.