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

2020–present   *Lead Research Scientist, Quantum Advantage*, Rigetti Computing, Washington, DC

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

- Developing software in Python, Rust, and Common Lisp as part of a team using modern software engineering best practices

- Published findings in 3rd Workshop on Artificial Intelligence for Humanitarian Assistance and Disaster Response at NeurIPS 2021 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

- Prototyped novel machine learning algorithms and models in Python and R

- Developed and integrated models and algorithms 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, set up and 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

2012   *Analytical Consultant*, Booz Allen Hamilton, McLean, VA

- Studied application of Natural Language Processing to in-house phishing email training

- Conducted research and analysis of personnel hierarchy with Python, GraphViz, Excel, and Visual Basic

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

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, 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.