Graham Enos

Summary

More than 10 years of mathematical research, computer programming, and education experience; Extensive experience in data science, modeling, visualization and analysis; Previously held Top Secret/SCI clearance; passed special background investigation, full scope polygraph.

Areas of Expertise

- Data Science, Statistical Data Mining and Modeling, Software Development
- Programming in Scala, Python (including "data stack," e.g. NumPy and Pandas), C, C++ (especially modern C++11, etc.), R, SQL, Haskell
- Elliptic Curve Public Key Cryptography, Computational and Algorithmic Abstract Algebra and Group Theory

Relevant Experience

2016–Present *Senior Data Scientist*, Quantifind, Inc., Washington, DC

- Conducting literature review and original research to answer open-ended questions prompted by product and stakeholder requests
- Prototyping novel machine leraning algorithms and models in Python and R
- Developing and integrating models and algorithms into a monolithic multi-developer Scala code base, conducting unit and integration testing, issuing and responding to code reviews, following other software engineering best practices, deploying at scale
- Incorporating new data sources into our product stack, setting up and administering 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
- Optimized development cycle of plugins for a large internal software tool
- Selected to be a Teaching Assistant for internal Statical Data Analysis and Data Mining course and was the only TA explicitly praised in student evaluation forms
- 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

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. *Complete and unified group laws are not enough for elliptic curve cryptography*. Cryptology ePrint Archive, Report 2013/015, 2013.
- Graham Enos and Yuliang Zheng. *An id-based signcryption scheme with compartmented secret sharing for unsigncryption*. Information Processing Letters, 115(2):128 – 133, 2015.