

Eugene Fratkin, PhD candidate

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Work and Research Experience

Computational Genomics Group, Stanford U. **2004-2008**

Applying statistical, machine learning methods to analyze genetic and biological data. My projects included: finding gene complexes that would be most susceptible to anti-cancer drug treatment; development of algorithms to infer genetic ancestry of an individual based on his dense micro-array genotype; analyzing mechanisms of cell regulation in eucaryotes - creating a motif (TFBS) finding tool.

Software Engineer, Voltage Security **2004-2005**

Working on Voltage Cryptographic Development Tool development, which provided tools for developing security application with conventional and Identity Based Encryption. Working on FIPS certification of cryptographic module; including implementation of test suit and documentation review.

Security Lab, Stanford U. **2003-2004**

Leading group of students in design of network timing attack on public key encryption systems such as RSA and DH. We attempted to discover vulnerability in black-box implementation of RSA by Microsoft.

Assault Section Leader, Infantry, USMC **2002-2003**

Instructing during pre-war training; planning and commanding combat operations of an assault section as fire support of an infantry company. Participating in planning of platoon size attacks during battles in Al Nassiriya, Baghdad , Al Fajir and other missions.

Ad Hoc Networking Research Group, Stanford U. **2000-2002**

Design and testing of incentive driven distributed scheme over mobile network. Our goal was to develop a packet passing approach for a distributed ad-hoc network.

Intern Engineer, Recourse Technologies **2001-2001**

Working on the intrusion forensics tool, diagnosing event of intrusion by residual evidence. The forensic tool would examine files access flags and other parameters that are hard or impossible to modify externally to infer evidence of possible intrusion.

Education

PhD, Stanford University **2004-2008**

Department of **Computer Science**; specializing in Computational Genomics. GPA 3.9/4.0

Summer Institute, Stanford Grad. School of Business **2008-2008**

Summer Institute of Entrepreneurship, modeled after MBA curriculum. GPA N/A

MS, Stanford University **2000-2003**

Department of **Computer Science**; specializing in Cryptography. GPA 3.86/4.0

BA, The Ohio State University **1996-2000**

Majoring in **Mathematics, Computer Information Science**; Summa Cum Laude, with Honors in Liberal Arts, and Distinction in Mathematics. GPA 3.84/4.0

Publications

Effect of genetic divergence in identifying ancestral origin using HAPAA. Published in Genome Research (GR), March 18, 2008. Presented at Research in Computational Molecular Biology (RECOMB), Singapore, 2008. *Summer Institute, Stanford Grad.*

A Graph-Based Motif Detection Algorithm Model Complex Nucleotide Dependencies in Transcription Factor Binding Sites. Published in Nucleic Acids Research (NAR) Oct 13, 2006. *Lorem ipsum dolor*

Finding Regulatory Motifs with Maximum Density Subgraphs. Published in Bioinformatics 22: 2006. Presented at International Conference On Intelligent Systems For Molecular Biology (ISMB), Fortaleza, Brazil, 2006.

Motif Finding in DNA Sequences Using Maximum Density Subgraphs. Presented at 2nd Moscow Conference in Computational Molecular Biology (MCCMB), Moscow, 2005.

Pinpoint: Problem Determination in Large, Dynamic, Internet Services. Published in Proceedings of the International Conference on Dependable Systems and Networks (IPDS Track), 2002.

Programming

Extensive experience with C++, C, Matlab
Familiarity with Perl, Java, PHP, R

Awards and Decorations

Department Of Health and Human Services Fellowship 2006.
Stanford Engineering Graduate Fellowship 2004.
9 US Military Decorations for Combat and Peace Time Actions. 2003.
Charles Clements Morris Math Award/Scholarship. 1999, 1998.
OSU Undergraduate Mathematics Recognition Award. 1999, 2000.
Excellence in Scholarship Arts and Sciences Award. 2000.
Phi Beta Kappa, National Honors Society Member.

Other Interests and Positions held

Professional Photography, 2006-2008.
Education Officer, Stanford Un. Photography Club, 2008.
Public Speaking (Toastmaster Int.), 2007-2008.
Chemical, Bio Weapons Defense Officer, E Co. 2/23 Marines. 2003
Chief Embarkation Officer, E Co. 2/23 Marines. 2003
Local Population Liaison Officer, E Co. 2/23 Marines. 2003
President, OSU Kung-Fu Club, 1999.
Vice President, OSU Russian Association, 1998.