Scott Clark
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Education

- **Cornell University** Ithaca, NY
  Ph.D. Applied Math (current), M.S. Computer Science *2008 - 2012(projected)*
  - Department of Energy Computational Science Graduate Fellow (Full Scholarship, 4 years)
  - Emphasis on machine learning/data mining and algorithm design/software development related to bioinformatics and optimization
- **Oregon State University** Corvallis, OR
  B.Sc. Mathematics, B.Sc. Computational Physics, B.Sc. Physics *2004 - 2008*
  - Graduated Magna Cum Laude with minors in Actuarial Sciences and Mathematical Sciences
  - Strong emphasis on scientific computing, numerical analysis and software development

Skills

- **Development:** C/C++, Python, CUDA, JavaScript, Ruby (Rails), Java, FORTRAN, MATLAB
- **Numerical Analysis:** Optimization, Linear Algebra, ODEs, PDEs, Monte Carlo, Computational Physics, Complex Systems, Iterative Methods, Tomology
- **Computer Science:** Machine Learning, Data Mining, Parallel Programming, Data Structures, Artificial Intelligence, Operating Systems
- Discovering and implementing new ideas. Give me an API and a problem and I will figure it out.
- Diverse background in Math, Computer Science, Physics and Biology allows me to communicate to a wide scientific and general audience and begin contributing to any group immediately.
- I have worked in many places in a myriad of fields. I can readily learn and adapt to a new discipline, area or environment and start pushing real results quickly.

Research and Work Experience

- **Bloomberg LP** New York, NY
  Financial Software Development Intern *Summer 2011*
  - Developed end-to-end reporting software in `C++` and `javascript`
  - Implemented statistical models to perform forward and backward portfolio analysis
- **DOE Joint Genome Institute (Lawrence Berkeley National Lab)** Walnut Creek, CA
  Researcher in Analysis Group under Dr. Zhong Wang *Summer 2010*
  - Created **open source** genome validation software tool in `python` and `C`
  - Used machine learning to mine TBs of genome data efficiently using novel likelihood function

- **Los Alamos National Laboratory** — Los Alamos, NM
  Researcher in Metagenomics Group under Dr. Nick Hengartner — *Summer 2009*
  - Wrote **open source** alignment algorithm software tool in `python`, `C` and `CUDA`
  - Used statistical models to discover sequence alignments using parallel algorithms on GPUs
- **Oregon State University** — Corvallis, OR
  Research Assistant under Prof. Malgorzata Peszynska and Prof. Rubin Landau — *2005-2008*
  - Finite element analysis with uncertainty and web-based teaching in `Java`
- **Max Plank Institute for the Physics of Complex Systems** — Dresden, Germany
  NSF REU Research Assistant under Prof. Steven Tomsovic — *Summer 2007*
  - Research on extreme value statistics in `MATLAB` and `FORTRAN`
- **University of California: Davis** — Davis, CA
  NSF REU Research Assistant under Prof. Daniel Cox — *Summer 2006*
  - Computational biophysics research as applied to protein folding in `Java`

Selected Open Source Projects and Publications (github.com/sc932)

- **ALE: Assembly Likelihood Estimator** — C, Python
  Probabalistic evaluation of genome assemblies — *2010 - Current*
  - Uses statistical likelihood function to score and rank genome assemblies
  - Publication being prepared for Genome Research
  - Presented at several conferences including SIAM Scientific Computing
- **Velvetrope** — Python, C, CUDA
  A parallel statistical algorithm for finding homologous regions within sequences — *2009 - 2010*
  - Profiled in DEIXIS Magazine, Publication submitted to BMC Bioinformatics
  - Presented at several conferences including Supercomputing and Q-bio
- **BetaHelix** — Java
  Computes various statistics about a left or right handed beta helix — *2006 - 2007*
  - Published in Prion: Left handed β helix models for mammalian prion fibrils.

Personal

- **Hobbies:** Poker, Golf, Racquet-based sports, Snowboarding, Video Games, Building things (physical and/or digital) and drinking good beer or scotch with new and old friends.
- **Why Industry over Academia?** I love exploring new problems on the forefront of research, but academia moves too slowly and bureaucratically for me. I enjoy working in a fast-paced environment pushing measurable results to clients on a daily timescale, using the skills that I have honed throughout my academic career.
- **My Ideal Position:** Working with a fun team solving interesting problems. I enjoy every part of development, from deep backend optimization to client-facing applications and interaction. I would love to make a difference wherever and however I am able while leveraging my machine learning, data mining and mathematical background.