NICOLAS BERTAGNOLLI

[redacted] nbertagnolli.com

OBJECTIVE

My goal is to acquire a position where I can manage, analyze, and report on large and complex datasets.

EDUCATION

University of Utah May 2016
Masters in Computer Science; GPA 3.7/4.0
- Coursework: Advanced Algorithms, Scientific Visualization, Structured Prediction, Clustering, Data Mining, Convex Optimization, Computer Architecture, Operating Systems

University of Utah May 2014
Bachelor of Science in Mathematics with a minor in Biomedical Engineering; GPA: 3.7/4.0
- Coursework: Machine Learning, Probabilistic Graphical Models, Digital Circuits, Genomic Signal Processing, Modern Algebra, Real Analysis, Numerical Analysis, Probability Theory

SKILLS

Software/Hardware
- Scala, Java, Processing, javascript, C/C++, Python, R, Matlab, Mathematica, Maple, Tableau, Arduino, Verilog, SQL, LaTeX, UNIX, Spark, git

Lean Startup
- Started a small tech company focused on addressing known issues in swim coaching
- Designed, built, and iterated potential technology with customers using hypothesis driven product development

Miscellaneous
- Strong communication and technical writing
- Avid skier, mountain biker, climber, martial artist, and flautist

WORK EXPERIENCE

3M Health Information Systems – Salt Lake City, Utah June 2016-Present
Data Scientist
- Designed algorithms and systems to leverage 3M's large quantity of medical data to improve patient care and decrease healthcare costs

Passive Logic – Salt Lake City, Utah Jan 2016-June 2016
Software Engineer
- Designed and implemented online interactive data visualizations to convey information about users' resource consumption

University of Utah – Salt Lake City, Utah Aug 2014-Dec 2015
Graduate Research Assistant, Learning Lab
- Designed algorithms for learning distributed representations of general structures
- Rigorously proved relationships between known algorithms and leveraged these results to create new methods in natural language processing and machine learning

University of Utah – Salt Lake City, Utah Aug 2011-May 2014
Research Assistant, Genomic Signal Processing Lab
- Studied mathematical and computational techniques for the analysis of high throughput genetic assays
- Developed algorithms for the discovery of novel biological phenomena from data using matrix factorizations
- Created software to simultaneously extract meaningful patterns from metabolic and transcriptomic data using SVD

University of Utah – Salt Lake City, Utah Nov 2009-Oct 2011
Research Assistant, Department of Oncology
- Constructed, amplified, and maintained various fluorescent protein plasmids
- Imaged cytoskeleton protein dynamics in living cells using confocal microscopy
- Designed and implemented software for fluorescent protein localization and distribution image analysis using Matlab

CONSULTING

Dycap – Gainesville, FL Nov 2015 – Feb 2016
- Designed and implemented a real time facial recognition, and optical flow tracking system in C++

Skullcandy – Park City, UT Feb 2016 – Aug 2016
- Designed and implemented a music preference analysis system for the human potentials laboratory

Rio Tinto (Kennecott) – South Jordan, UT Aug 2016 – Present
- Designed and implemented truck maintenance schedule optimization tool.

TEACHING EXPERIENCE

Rowland Hall High School, Substitute Teacher

University of Utah School of Computing, Teaching Assistant

- Provided supplemental instruction and wrote homework for the graduate and undergraduate machine learning course

PUBLICATIONS

- J. M. Tennessen**, N. M. Bertagnolli**, L. Evans, M.H. Sieber, J. Cox and C. S. Thummel (2014) "*Drosophila Embryogenesis and the onset of aerobic glycolysis*," G3: Genes, Genomes, Genetics 4(5): 839-850.
- **N. M. Bertagnolli**, J. A. Drake, J. M. Tennessen and O. Alter (2013) "*SVD Identifies Transcript Length Distribution Functions from DNA Microarray Data and Reveals Evolutionary Forces Globally Affecting GBM Metabolism*," *PLoS ONE* 8(11): e78913

PRESENTATIONS

- **N. M. Bertagnolli**, J. A. Drake, J. M. Tennessen and O. Alter "*SVD Identifies Transcript Length Distribution Functions from DNA Microarray Data and Reveals Evolutionary Forces Globally Affecting GBM Metabolism*," *Biomedical Engineering Society Annual Meeting (*BMES) 2013 (Seattle, Washington, September 25, 2013- September 27, 2013), contributed poster.
- **N. M. Bertagnolli**, J. A. Drake, J. M. Tennessen and O. Alter "*SVD Identifies Transcript Length Distribution Functions from DNA Microarray Data and Reveals Evolutionary Forces Globally Affecting GBM Metabolism*," *Utah Biomedical Engineering Conference* (Salt Lake City, Utah, September 16, 2013), contributed poster.
- **N. M. Bertagnolli**, J. A. Drake, J. M. Tennessen and O. Alter "*Similarities and Differences between Normal Brain and Gliblastoma Multiforme Uncovered by Singular Value Decomposition of Transcript Size Distributions*," *Scientific Computing and Imaging (SCI) Institute (SCIx)* (Salt Lake City, Utah, November 13, 2012), contributed poster.
- **N. M. Bertagnolli**, J. A. Drake, J. M. Tennessen and O. Alter "*Similarities and Differences between Normal Brain and Gliblastoma Multiforme Uncovered by Singular Value Decomposition of Transcript Size Distribution*," *Utah Biomedical Engineering Conference* (Salt Lake City, Utah, September 16, 2012), Best Poster Award.

HONORS / AWARDS

NSF Graduate Research Fellowship Honorable Mention

- National Science Foundation four year fellowship. ~ 10% acceptance rate

University of Utah School of Computing First Year Graduate Research Fellowship

- Fellowship to provide tuition, and living stipend for the first year of graduate school

University of Utah Presidential Scholarship

- Full ride scholarship to the University of Utah including, tuition, housing, and food.

Valedictorian Juan Diego Catholic High School

- Highest academic performance in my high school graduating class