Nicolas Maxwell Bertagnolli

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Education

- **University of Utah** — Salt Lake City, UT
  PhD in Computing Data Management and Analysis; GPA:3.7 — *Expected May 2018*
  - Key Courses: Advanced Algorithms, Scientific Visualization, Structured Prediction, Clustering, Data Mining, Convex Optimization
- **University of Utah** — Salt Lake City, UT
  Bachelor of Science in Mathematics; GPA:3.7 — *Aug. 2010 – May. 2014*
  - Minor in Biomedical Engineering
  - Key Courses: Machine Learning, Probabilistic Graphical Models, Genomic Signal Processing, Modern Algebra, Real Analysis, Numerical Analysis, Probability Theory

Experience

- **Learning Lab** — Salt Lake City, UT
  Graduate Research Assistant — *Aug. 2014 – Present*
  - Develop, implement and demonstrate algorithms for understanding human language;
  - Create software that enables others to easily perform similar experiments as are run in our lab;
  - Rigorously prove relationships between known algorithms and leverage these results to improve performance
- **Alter Lab** — Salt Lake City, UT
  Undergraduate Research Fellow, Department of Bioengineerign — *Oct. 2011– May. 2014*
  - Studied mathematical and computational techniques for the analysis of high throughput genetic assays
  - Developed; implemented; demonstrated algorithms for the discovery of novel biological phenomena from data
  - Created software that simultaneously extracts meaningful patterns from metabolic and transcriptomic data

Publications

1. 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.
2. **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.

Projects

1. Facial Recognition

- Worked in a team of four to create a facial recognition and classification system.

2. GPS Model

- Worked in a team of three to model gps communications between a vehicle, satellites, and a receiver.

3. Cytoskeleton Analysis Tool

- Worked in a team of four to create a tool for biologists to measure and visualize cytoskeletal dynamics

Programming Experience

Proficient/often used Scala, Python, Matlab, Mathematica, **Familiar** Java, R, Processing, C++, Verilog