Daniel Berenberg

Current Address:
169 S. Union #4
Burlington, VT 05401

609-670-4667
danielberenberg@gmail.com
danielberenberg.github.io

Permanent Address:
7 Abingdon Avenue
Medford, NJ 08055

Education

University of Vermont Graduate College, Burlington, Vermont *2016 - 2018*
M.S., Computer Science — 3.9/4.0
Selected Courses: Advanced courses in Artificial Intelligence (DL, ML, RL), Complex Systems, Data Science, Software Engineering, Algorithms for Complex Networks

University of Vermont CEMS, Burlington, Vermont *2013 - 2017*
B.S., Mathematics — 3.41/4.0
⇒ Minor: Computer Science; 40+ credits in Russian

St. Petersburg University, St. Petersburg, Russia *Fall 2015*
CIEE Study Abroad Program

Professional Experience

University of Vermont Mathematics, Burlington, VT Current
Teaching Assistant - Data Science
⇒ Asked to TA course by instructor. Duties include holding regular office hours and teaching statistical, computational, and programmatic concepts to students in Python.

Vermont Complex Systems Center - Bagrow Lab, Burlington, Vermont *Fall 2017* - Current
Research Assistant
⇒ Intersecting graph theory and statistics with NLP/NLU to research complex networks.
⇒ Studying cutting edge computational linguistics research.
⇒ Developing deep language processing models and implementing Python-based research tools using NLTK, Keras, Tensorflow, and Stanford CoreNLP.

Vermont Artificial Intelligence Laboratory (VAiL), Burlington, Vermont *Summer 2018*
Machine Learning Engineer
⇒ Designed and constructed artificially intelligent computer vision system capable of predicting heart rate and respiratory rate from a noisy dataset of smart phone videos.
⇒ Implemented advanced video preprocessing and manipulation software using various Python libraries including OpenCV, PIL, numpy, and scipy.
⇒ Developed high performance 3D convolutional network using Keras and Tensorflow.

The Flatiron Institute - Computational Biology Lab, Manhattan, New York *Summer 2017*
Research Intern
⇒ Utilized advanced protein fold simulation codebase (Rosetta) and molecular visualization software (PyMOL) to research physically stable conformations of empirically unobserved protein structures. Duties included implementing various python and bash scripts to interface with the C++ codebase.

University of Vermont Computer Science, Burlington, Vermont *Spring 2017*
Teaching Assistant - Introduction to Java

Publications

Efficient Crowd Exploration of Large Networks: The Case of Causal Attribution
D. Berenberg, J. P. Bagrow, In *Proc. ACM Hum-Comput. Interact. (CSCW '18)* (2018)
⇒ Honorable mention for best paper

Neural language representations predict outcomes of scientific research
J.P. Bagrow, D. Berenberg, and J. Bongard, Preprint (2018)

Skills

Development/Scripting: Python, C/C++, Java, Unix Shell/Bash, Ocaml, HTML/CSS

Frameworks/Tools: Keras, Tensorflow Scikit-Learn, SciPy & NumPy, git, LaTeX, Wordpress

Technical: OOP & functional programming, Agile development, cluster computing

Languages: Russian $\sim$ 2.1 on Language Proficiency Index

Leadership & Other Achievements

UVM Computer Science Fair, 3^{rd} ***place*** *Fall 2017*
Dean's List *Spring 2017*