Daniel Berenberg

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Permanent Address:
7 Abingdon Avenue
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Education

University of Vermont Graduate College, Burlington, Vermont *2016 - 2018*
M.S., Computer Science — 3.9/4.0
⇒ Selected Courses: Deep Learning, Machine Learning, Reinforcement Learning, Principles of Complex Systems, Modelling Complex Systems

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

Vermont Complex Systems Center - Bagrow Lab, Burlington, Vermont *Fall 2017* - Current
Research Assistant
⇒ Intersecting graph theory and statistics with NLP/NLU to research the complex network of human causal attribution. Duties include developing robust Python-based computational linguistics research tools and implementing deep neural language models using Keras and Tensorflow.

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: Tensorflow, Keras, Scikit-Learn, scipy, numpy, git, LaTeX, Wordpress

Technical: OOP, functional programming, Agile development; networking, cloud/cluster computing

Languages: Russian $\sim$ 2.1 on Language Proficiency Index
Other courses: Algorithm design, Data science, Software engineering, Operating systems

Leadership & Other Achievements

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