I. David Rein

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Education

Duke University - B.S. Computer Science, Minors in Mathematics, Philosophy: Class of 2021

- GPA: 3.78/4.0 (Dean's List x1)
- Linear Algebra, Data Structures and Algorithms, Advanced Multivariable Calculus, Computer Architecture, Intro Data Science, High Dimensional Data Analysis, Advanced Intro Probability, Operating Systems, Machine Learning (graduate level), Deep Learning (independent study, graduate level)

James Martin High School: Class of 2017

- Top 3% of class - ACT: 35 - SAT: 1550 - Math II SAT Subject Test: 800
- National Merit Scholar

Research Experience

***Duke Clinical Research Institute*:** 2019 Spring | **Machine Learning Research Intern**

- Currently assessing the ability of clinical narratives to predict decompensation in patients at the Duke Hospital. Using modern NLP techniques and models

***Duke Data+*:** 2018 Summer - 2018 Fall | **Machine Learning Research Intern**

- Operationalized the ML pipeline for the Duke Forge analysis of Electronic Medical Records (EMR)
- Continued work through 2018 Fall, where I developed a fast, parallelized preprocessing toolkit

***National Institute of Standards and Technology (NIST)*:** 2017 Summer | **Data Science Intern**

- Applied and Computational Mathematics Division of the Information Technology Lab
- Performed exploratory data analysis/visualization of molecular dynamics simulations of thermoset polymers (time series analysis), and optimized code for memory and time efficiency on large datasets

Skills and Activities

- Incoming Co-President of Duke Undergraduate Machine Learning
    - Organized Fall 2018 Duke Datathon with 250+ participants and 325+ applications
    - Regularly host speakers for seminars and workshops to engage undergraduates in ML
- Nominated by Dr. Robert Calderbank for the Duke Mentorship Program
- Fluent in Java, Python, experience with SQL, R, C++
- Scikit-Learn, Pandas, Dask, TensorFlow, Keras, Gensim, NLTK, PySpark (Apache Spark)
- Wrote a genetic algorithm where virtual agents learned to survive in a competitive ecosystem through fixed-topology neuroevolution: 2016-2017
    - My partner and I wrote our own basic ML library and developed a GUI to monitor agents' progress (and to enjoy watching their battles)
- Coursera Courses
    - Deep Learning Specialization: 2018
    - Stanford Machine Learning Course: 2016