

# I. David Rein

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## Education

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### **Duke University - Computer Science, Mathematics, Philosophy:** Class of 2021

- GPA - 3.822 (Dean's List for Fall 2017)
- Linear Algebra, Data Structures and Algorithms, Advanced Multivariable Calc., Computer Architecture, Intro Data Science, Intro High Dim. Data Analysis, Advanced Intro Probability, Operating Systems

### **James Martin High School:** Class of 2017

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

## Research Experience

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### **Duke Data+:** 2018 Summer

- **Machine Learning Research Intern**
- Operationalized the machine learning pipeline for the Duke Medical Center analysis of Electronic Medical Records (EMR).
- Aided the transition to an Apache Spark distributed workflow by developing tools for Duke Forge researchers
- Natural Language Processing (NLP) - Used doctors' notes to classify premature babies with growth failure (used state-of-the-art word embedding and modeling techniques)

### **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)
- Optimized code for memory and time efficiency on large datasets.

## Skills and Activities

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- Marketing Director on Executive Board for Duke Undergraduate Machine Learning
- Fluent in Java, Python, experience with SQL, R
- Scikit-learn, Pandas, Keras, Gensim, PySpark
- Wrote a genetic algorithm where virtual agents learned to survive in a competitive ecosystem through fixed-topology neuroevolution (wrote our own ML library): 2016-2017
- Stanford Coursera Online Machine Learning Course: 2016