

# Robert Thorstad, PhD

 thorstads@gmail.com  (610)-348-6680  linkedin.com/in/robert-thorstad  github.com/rthorst

## SKILLS

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**Programming Languages:** Python, R, SQL, Java, HTML

**Machine Learning:** Natural Language Processing, Deep Learning, Dimensionality Reduction, Clustering

**Quantitative Methods:** A/B Testing, Multilevel Modeling, Bootstrapping, Dynamic Time Warping, ANOVA

## EXPERIENCE

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**Data Science Fellow, Insight Data Science, New York City** Jan 2020 - Present

- Developed web application to automatically grade condition of sports trading cards, making expert-level grading accessible to millions of peer-to-peer transactions ([bit.ly/mintCondition](http://bit.ly/mintCondition))
- Trained convolutional neural network to grade 90,000 trading card pictures and used attention/saliency maps to understand model's predictions
- Demonstrated model is twice as accurate and three times as reliable as human amateurs by conducting human experiments on 30 participants

**Cognitive Scientist, Emory University, Atlanta, GA** Aug 2014 - Dec 2019

- Led use of large-scale human behavior to predict personal psychology by applying machine learning and data mining to 100 million social media posts, resulting in 8 peer-reviewed publications and Emory Research Catalyst Award
- Demonstrated that social media posts predict poster's decisions about current versus future rewards ([bit.ly/pnas-2018](http://bit.ly/pnas-2018)) and predict poster's mental health ([bit.ly/reddit-mh](http://bit.ly/reddit-mh)) by combining natural language processing with human experiments
- Shaped teaching of computational methods to over 200 students through founding a python programming group, assisting at Software Carpentry and DataFest events, and statistical consulting

**Data Services Fellow, Emory University Libraries, Atlanta, GA** Aug 2019 - Dec 2019

- Received competitive fellowship at Emory libraries (out of 3 awarded to all Emory PhD students) to serve as primary programmer and statistician for graduate- and faculty-level research projects and consulted with >20 students and researchers
- Served as key contributor to dissertation projects including quantifying 50 years of migration patterns to American South by aggregating US census microdata from 10s of millions of households
- Led university-wide workshops on Python programming and social media mining ([bit.ly/data-srv](http://bit.ly/data-srv))

## ADDITIONAL PROJECTS

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**TwitterSent:** Social media comments are valuable for brands, but reading every comment is challenging. TwitterSent automatically scores how positive recent tweets are about a brand ([bit.ly/twitter-sent](http://bit.ly/twitter-sent)).

**MobileStrategyGames:** Strategy game designers need to understand what types of strategy games already exist. Mobile Strategy Games automatically identified 8 main types of strategy games on the Apple store using lvis, a novel type of supervised dimensionality reduction ([bit.ly/st-games](http://bit.ly/st-games)).

## EDUCATION

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**Emory University, Atlanta, GA** 2019  
PhD, Cognitive Psychology

**Haverford College, Haverford, PA** 2012  
BA, Philosophy with High Honors