

# THOMAS DEVINE

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## EDUCATION

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<b>CARNEGIE MELLON UNIVERSITY</b> M.S. IN ECONOMICS; Award: \$138,000, National Science Foundation GRFP for a research proposal in child adoption matching	<b>2018–2021</b>
<b>UNIVERSITY OF NORTH DAKOTA</b> B.S. MATHEMATICS, MINOR IN STATISTICS; BA ECONOMICS; GPA 3.78 Awards: McNair Scholar; speaker at UND's Phi Beta Kappa induction ceremony	<b>2015–2018</b>

## WORK AND RESEARCH EXPERIENCE

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<b>Carnegie Mellon University</b> <i>Master's Thesis</i>	<b>Summer 2020</b> <i>Pittsburgh, PA</i>
· Using R & Stata, I used causal inference via a first differences approach to the adoption of Solar Panel (PV) installations of a neighbor's decision to install PV affects peers at the zip code-level using public Census & ACS data; this entailed webscraping, data cleaning, modeling, statistical inference, and more. This work relates to classic marketing studies of the installed based & extends to predictive lead scoring.	
<b>Carnegie Mellon University</b> <i>Teaching Assistant</i>	<b>Jan. 2020–Present</b> <i>Pittsburgh, PA</i>
· ( <i>Graduate</i> ) Statistical Foundations for Business Analytics (46-883)x2; Forecasting Time Series Data (45-912)x2; Modern Data Management (45-881)x1; In 46-883 and 45-912, I answered questions in R and explained class concepts in statistics, econometrics, & machine learning. In 45-881, I answered questions on the design and implementation of relational databases (MySQL) & data preparation using Tableau Prep, joining and blending multiple data sources in Tableau, & a brief discussion of data management challenges in the big data era. ( <i>Undergrad.</i> ) Political Economy (73-332)x2; I graded & answered questions.	
<b>Topic Modeling with Machine Learning (project in progress)</b>	<b>Feb. 2021–Present</b>
· Using R (tm, openNLP), I parse comedy monologues (stand-up specials) to build a recommendation application. I use LDA, LSA, and NMF to assess topics. I map/cluster specials, topics, and comedians to defined genres of comedy and to one another. I make a functional API to showcase the project.	
<b>CNA Financial</b> <i>Actuarial Intern - Long Term Care</i>	<b>June–August 2018</b> <i>Chicago, IL</i>
· Using R, SAS, and Alteryx, I converted (SAS to Alteryx) a monthly 4-step process in that aggregates counts for incurred but not reported claims and terminated but not reported claims for the group and individual policies; I converted (SAS to R) a monthly close process that aggregates claim counts.	
<b>Carnegie Mellon University</b> <i>Undergraduate Researcher in Financial Math</i>	<b>May–July 2017</b> <i>Pittsburgh, PA</i>
· Using R and Python, my team web-scraped put option prices into a gradient descent algorithm for chosen stocks on the DJIA and compared the efficiency of random sets of stocks to calculate error (SSE).	

## TECHNICAL AND ANALYTICAL SKILL SET

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**Skills** R, Java, Python, Matlab, SQL, L<sup>A</sup>T<sub>E</sub>X, Stata, SAS, Alteryx, Spanish (Intermediate)  
IDEs: RStudio, Spyder, DBeaver, IntelliJ, Jupyter Notebook; Actuarial Exam P (01/2017)

## LEADERSHIP ROLES

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· <b>CMU Club: Actuarial Science</b>	<b>President</b>	<b>2018–2021</b>
· <b>UND Clubs: Chess, Actuarial Science, Political (VP)</b>	<b>Presidentx2, VPx1</b>	<b>2016–2018</b>