

# Nicholas Michalak

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## SKILLS

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**Programming Languages:** Python, R, SQL, MPlus

**Tools:** NumPy, Pandas, Matplotlib, seaborn, Flask, scikit-learn, dplyr, ggplot2, Shiny, glmnet, car, candisc, psych, lavaan, formr

**Other:** Linear Regression, Logistic Regression, Generalized Linear Model, Ridge Regression, Lasso Regression, Canonical Correlation, k-means clustering, Psychometrics, Multidimensional Scaling, Structural Equation Modeling, Multiple Imputation, Exploratory Factor Analysis, Principal Components Analysis, Reliability, ANOVA, Power Analysis, Experimental Design, Survey Design, Qualtrics, form{r} survey framework, Survey Monkey

## EXPERIENCE

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**Data Science Fellow** | *Insight Fellows* | Remote May 2020 - Present

- Developed Next Escape, a Flask web application that simplifies web searches for users looking for an ideal escape room or escape rooms similar to ones they've played and enjoyed before
- Extracted escape room themes using Word2Vec and term frequency-inverse document frequency (TF-IDF) on room descriptions web scraped from nearly 8,000 rooms across North America
- Utilized room features (e.g., Fear Level, Success Rate, story themes) to recommend escape rooms based on euclidean distance (similarity) to either user-entered escape rooms or ideal escape rooms

**Graduate Researcher** | *University of Michigan* | Ann Arbor, MI Sep 2015 - Aug 2020

- Designed experiments and observational studies to test hypotheses about human pathogen avoidance psychology
- Utilized linear mixed-effects models and linear discriminant analysis to estimate the psychological importance of facial features people imagine threatening others to possess
- Utilized generalized linear mixed-effects models and random-effects meta-analysis to estimate people's accuracy for judging whether coughs and sneezes were produced by infected persons
- Lead 8+ teams of undergraduate research assistants who collectively ran 1,500+ participants through 10+ in-lab experiments over 5 years
- Lead Advanced Statistical Methods graduate course office hours for students seeking help with modeling, computing, and data visualization in their homework and in their own research

**Statistics Consultant** | *University of Michigan* | Ann Arbor, MI Sep 2017 - May 2020

- Served as department-wide consultant to senior researcher and graduate student clients
- Made actionable methodological and statistical recommendations for now-published research studies, master's theses, and dissertations

## EDUCATION

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**University of Michigan** Sep 2015 - Aug 2020  
M.S. and Ph.D. in Social Psychology

**University of St. Thomas (MN)** Aug 2007 - May 2012  
B.S. in Neuroscience