

# GRACE VAN HYFTE

## Statistics Graduate Student

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📍 Kalamazoo, MI, USA

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🔗 gracevh

## PROJECTS

### Academic Performance Analysis

#### STAT 5850: Applied Data Mining

- Statistical modelling and prediction of factors associated with academic success
- Comparator models for subset selection and variable importance determination using Forward Step-wise regression, LASSO, Multiple Regression
- Recoded response variable as factor for classification methods: pruned decision trees, Random Forests, Logistic regression
- Performed academic performance predictions using subset models with accuracy ratings 80-96%
- What I learned: The effects of binning and binned variables; balance of descriptive models vs. predictive models

### Spam Text Detection

#### STAT 5870: Big Data Analysis Using Python

- Text Classification and Sentiment Analysis comparison study between different feature extraction techniques and model types
- Text feature extraction (Bag of Words, TF-IDF, N-grams); Models (Logistic Regression, Multinomial Naive Bayes, Support Vector Machines)
- What I learned: The importance of data cleaning, clear and organized scripting, and the sklearn features associated with the project.

### Epidemiological Study on Contraceptive Use

#### STAT 6040: Statistics for Epidemiology

- Identified key determinants of contraceptive use via Multiple Logistic Regression.
- Highlighted defining characteristics of the study population using descriptive statistical methods
- What I learned: The implications of theoretical assumptions in model fitting. Interpretability of the model is equally as important as the model itself.

### Interactive Supervised Learning Shiny App

#### Ongoing Personal Project

📍 <https://gracevh.shinyapps.io/app1/>

- Deployed R-based interactive application on popular supervised learning classification models
- What I learned: The mechanics of R Shiny applications

### Web Scraping: A Connection Between Outdoor Recreation Store Locations and Airports?

#### Ongoing Personal Project

## EDUCATION

### M.Sc. in Statistics

#### Western Michigan University

📅 Sep 2019 – Apr 2021

### Graduate Certificate in Biostatistics

#### Western Michigan University

📅 Sep 2019 – Apr 2021

### B.Sc. in Biopsychology & Cognitive Neuroscience

#### University of Michigan-Ann Arbor

📅 Sep 2011 – Jul 2016

### Minor in Spanish

#### University of Michigan partnership with Pontificia Universidad Católica de Chile

📅 Jan 2016 – Jul 2016 📍 Santiago, Chile

## VOLUNTEERING



#### Cradle Kalamazoo

Spreading awareness about infant mortality, safe sleep practices, health equity and support services for women and families



#### Food Gatherers

Packaging food and supplies for local shelters and families



#### ESL Teaching Assistant

3 month experience with middle school children in Valparaíso, Chile

## SKILLS

Hard-working

Personable

Resourceful

Self-motivated

Quick Learner

LaTeX

Pandas

Numpy

Scikitlearn

ggplot

Shiny R

R Markdown

Web Scraping

Text Analytics

Data Mining Techniques

Multivariate Analysis

Machine Learning Techniques

Linear Models

Logistic Regression

Poisson Regression

- Scraped outdoor recreation store and U.S. International airport locations using Python's BeautifulSoup4 and web crawler made through Scrapy
- Data cleaning of addresses and conversion to latitude-longitude coordinates
- Applied 'ggmap' and 'mapproj' R package functions to spatial data
- What I learned: A familiarity with basic HTML and querying its hidden data. Familiarity with QGIS and its functionality compared to R spatial analysis packages.

## EMPLOYMENT

### Statistics Graduate Student Instructor

#### Western Michigan University

📅 Aug 2019 – Ongoing 📍 Kalamazoo, MI

- Primary instructor for STAT2160: Business Statistics
- Covered topics: descriptive statistics, Normal Distribution, Binomial Distribution, confidence intervals, independent samples T-Test, paired T-Test, hypothesis testing, Chi-squared test, simple and multiple linear regression

### Resource Team Nurse Assistant

#### Borgess Medical Center

📅 Jan 2017 – Aug 2019 📍 Kalamazoo, MI

- Recorded pertinent patient information, care and condition through electronic charting systems.
- Coordinated care management with Registered Nurses, Physicians, and support staff.

### Substitute Teacher

#### EduStaff Inc

📅 Sep 2016 – Feb 2017 📍 Kalamazoo, MI

- Coached literacy exercises, planned and improvised, in Kindergarten-3rd grade level, TESOL, and special education programs.
- Developed and applied skills in: improvisational educational instruction, leadership strategies in classroom management, and verbal communication

### Spanish Instructor

#### Burns Park Elementary

📅 Sep 2015 – Dec 2015 📍 Ann Arbor, MI

- Constructed and executed weekly Spanish language lesson plans in a collaborative partnership with another instructor.
- Collected, analyzed and formalized a report on student test data to assess competency levels based on instruction methods

### Medical Scribe & Community Outreach

#### University of Michigan Nursing Global Health Program

📅 Jun 2015 – Jul 2015 📍 Quito, Ecuador

- Engaged in public health campaigns distributing oral polio vaccines and dental hygienic care packages in underserved rural communities.

## PROGRAMMING

R ● ● ● ● ●

Python ● ● ● ● ●

SAS ● ● ● ● ●

## LANGUAGES

English ● ● ● ● ●

Spanish ● ● ● ● ●

## PUBLICATIONS

### 📄 Journal Articles

- Iliff, Adam et al. (2013). "Impaired activity-dependent FMRP translation and enhanced mGluR-dependent LTD in Fragile X permutation mice". In: *Human Molecular Genetics* 22 (6), pp. 1180–1192.

## AWARDS

🏛️ **Dr. Gerald Sievers Academic Award : Siever's Memorial Scholarship**  
April 2020

📄 **National Fragile X Foundation Fellowship Grant**  
May 2013

👥 **Undergraduate Research Opportunity Program Symposium Presenter Award**  
April 2013

## RELEVANT COURSES

- STAT 6800: SAS Programming
- STAT 5850: Applied Data Mining
- STAT 5610: Applied Multivariate Statistical Methods
- STAT 5870: Big Data Analysis Using Python
- STAT 6640: Applied Mixed Models
- STAT 6620: Applied Linear Models
- STAT 6500/6600: Statistical Theory I & II

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## Group Facilitator

### University of Michigan Challenge Program

📅 Apr 2015 – Jan 2016

📍 Ann Arbor, MI

- Created and guided customized outdoor team-building activity plans
  - Guided participants through physically and/or mentally demanding outdoor team challenges
  - Example initiatives: rock-wall climbing, suspended ropes course, blindfold exercises, group puzzles
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## Research Assistant

### University of Michigan: Department of Neurology

📅 Sep 2012 – Oct 2013

📍 Ann Arbor, MI

- Utilized microscopy with fluorescence and laser confocal techniques on dissected neuron cell samples
- Gel electrophoresis, PCR, blotting techniques, and cell culture incubation