# Anna Grace WHITE

## PERSONAL DATA

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| RESEARCH GROUP: | Guikema Research Group |

## EDUCATION

**University of Michigan**, Ann Arbor, Michigan — MAY 2022 *(Expected)*
PhD Candidate in INDUSTRIAL AND OPERATIONS ENGINEERING
Advisor: Seth Guikema, PhD
*Science, Technology, & Public Policy Certificate Program*
GPA: 3.967/4.000

**Clemson University**, Clemson, South Carolina — MAY 2017
Bachelor of Science in INDUSTRIAL ENGINEERING
Calhoun Honors College: General and Departmental Honors
*Minor in Modern Languages - Spanish*
GPA: 4.000/4.000 *(Summa Cum Laude)*

**Universitat Autonoma de Barcelona**, Barcelona, Spain — SPRING 2015
Semester Study Abroad

## RESEARCH EXPERIENCE

**Uncovering characteristics of high-risk areas for human sex trafficking** — FALL 2018 - PRESENT
*Working Paper*
Using scraped web data and publicly available census tract characteristics, this study uses predictive modeling to forecast high-risk areas for human sex trafficking and reveal significant factors in the existence of these high-risk environments. The purpose of this study is to better understand where human trafficking persists and if there are policies that hinder its success.

**A Framework for predicting cell coverage during hurricanes** — WINTER 2019 - PRESENT
*Working Paper*
To better understand the risk of cell service outages during natural disasters, we simulated the effects of hurricane speed winds on geospatial cell tower and antenna data. We estimated network coverage using a genetic algorithm and used Monte Carlo simulation to predict service loss under hazard scenarios. This work is funded by One Concern, Inc., a Silicon Valley start-up focused on data analytics for community resilience and natural hazards.

**Persistent patterns of discriminatory housing policy and inequity: A spatial statistical analysis** — FALL 2017 - FALL 2018
*Submitted for publication*
In this study, we compare spatial patterns between discriminatory lending maps, often called redlining maps, drawn by the Home Owner's Loan Corporation (HOLC) and 12 current quality of life indicators including health, employment, education, and income. We use statistical analysis tools and unsupervised learning techniques to explore the connections between HOLC evaluations and today's outcomes over 14 wide-ranging cities. Our findings suggest that discriminatory housing patterns continue to be reflected in outcomes in cities today.

**Cost minimization and fleet sizing for multi-function electric bus fleets** — FALL 2016 - SPRING 2017
*Honors Thesis*

## Selected Awards and Grants

- College of Engineering Diversity, Equity, and Inclusion Student Grant 2020
- Graduate Student Community Grant 2019
- Tennessee Department of Transportation 2019 Mini Call for Research 2019
  Proposals to addressing the opioid crisis in TN
- National Defense Science and Engineering Graduate Fellowship Finalist 2018, 2019
- Rackham Merit Fellow 2017
- Michigan Institute for Computational Discovery and Engineering Fellow 2017
- Clemson University Faculty Scholarship Award 2017
- Dixon Global Policy Scholar 2013

## Industry Experience

**Air Force Research Laboratory, Systems Technology Office**, Dayton, Ohio — SUMMER 2019
*Associate General Engineer*

Uncovered advanced communication system modeling capabilities in AFSIM (Advanced Framework for Simulation, Integration and Modeling software)

Developed training materials for future work in communications modeling in AFSIM

**Draexlmaier Automotive of America**, Duncan, South Carolina — SUMMER 2016
*Corporate Logistics Intern*

Worked as a Material Flow Planner to update 40 bay Marketplace and 10 Tugger routes in preparation for building expansion for new carline launch.

Facilitated Kaizen event among four departments to improve machine leasing protocol.

Verified, maintained, and created a total of four logistics databases to ensure all planning information was correct in systems and matched information available in plant.

**BorgWarner Turbo Systems**, Asheville, North Carolina — SUMMER 2015
*Supplier Quality Intern*

Verified incoming prototype materials were to specification by reviewing supplier submissions; resolved missing and deficient submissions concerns.

Provided launch support on new customer program through packaging verification and leveling verifications; manufacturing readiness preparation.

Became skilled with new computer systems (SAP, eQLR, EMS) and developed instructions for their use.

Participated in supplier visits and audits to develop an understanding of manufacturing and quality processes.

**Biltmore Estate Winery**, Asheville, North Carolina — SUMMER 2014
*Tasting room wine server*

Managed tasting room of high-volume winery by efficiently moving guests through the line

Communicated with guests about wine varieties and the history of Biltmore while serving complimentary wine tasting

## Skills

PROFICIENT: R, ArcGIS, VBA, AMPL, LaTeX, AutoCAD, Solidworks Mechanical Design, Python, Microsoft Office, AFSIM

INTERMEDIATE: MATLAB, Arena Simulation Software, SAP

BASIC: Wolfram Mathematica, CPLEX Solver, Gurobi Solver, Minitab

## Teaching Experience

**University of Michigan**, Ann Arbor, Michgian
*Graduate Student Instructor: IOE 561, Risk Analysis*
Gave 3 solo lectures to hybrid classroom of 24 in-person and 17 online students
Held in-person and virtual office hours to discuss course concepts
Assisted with exam writing and assignment grading

<span style="float:right">Winter 2020</span>

**Seneca High School**, Seneca, South Carolina
*TigersTeach Intern*
Assisted instruction in three Algebra I sections and one Pre-Calculus section.
Explored teaching methods and teaching career on a weekly basis with a collaborating teacher.

Fall 2015

**T.C. Roberson High School**, Asheville, North Carolina
*After-school Peer Tutoring Program Founder*
Started an after-school tutoring program to facilitate peer-to-peer tutoring in math courses.

Fall 2012 –
Spring 2013

## Outreach and Mentorship

Mentor: SWE Michigan Student Chapter (undergraduate student),
INFORMS Michigan Student Chapter (graduate student),
Lunch & Lab with a Graduate Student (undergraduate students)

Volunteer: Dawn Farm Addiction Treatment Center,
GISE (Girls in Science and Engineering) Summmer Camp,
Xplore Engineering Summer Camp,
FEMMES (Females Excelling More in Math, Engineering, and the Sciences

## Affiliations: Current

**Institute for Operations Research and Management Sciences (INFORMS)**
*President, University of Michigan Chapter (Elected)*

**Society for Risk Analysis (SRA)**
*Student member*

**Michigan University-wide Sustainability & Environment Initiative**
*Social Chair*

## Conference Presentations

White, A. G.*, Guikema, S., Logan, T. ” Framework for predicting cell coverage during hurricanes.” *Michigan University-Wide Sustainability and Environment (MUSE) Annual Conference*, Ann Arbor, Michigan.

Feb 2020

White, A. G.*, Guikema, S., Carr, B. ”Risk factors for the existence of illicit massage parlors.” *SRA Annual Meeting*, Arlington, Virginia.

Dec 2019

White, A. G.* ”Panel: Human Trafficking and ORMS.” Panelist at *INFORMS Annual Meeting*, Seattle, Washington.

Oct 2019

White, A. G.*, Guikema, S., Logan, T. "Persistent patterns of discriminatory housing policy and inequity: a spatial analysis" Plenary speaker at *Michigan University-Wide Sustainability and Environment (MUSE) Annual Conference*, Ann Arbor, Michigan.

FEB 2019

White, A. G.*, Guikema, S., Logan, T. "Persistent patterns of discriminatory housing policy and inequity: a spatial analysis" *INFORMS Annual Meeting*, Phoenix, Arizona.

NOV 2018

White, A. G.*, Guikema, S., Logan, T. "Persistent patterns of discriminatory housing policy and inequity: a spatial analysis" *International Conference on Transport and Health 2018*, Mackinac Island, Michigan.

JUNE 2018

White, A. G.*, Guikema, S., Logan, T. "Persistent patterns of discriminatory housing policy and inequity: a spatial analysis" *Michigan University-Wide Sustainability and Environment (MUSE) Annual Conference*, Ann Arbor, Michigan.

FEB 2018

Farthing, A.*, Harris, N., Riggs, R., Mason, S., White, A. G. "Cost minimization and fleet sizing for multifunction electric bus fleets" *INFORMS Annual Meeting*, Nashville, Tennessee.
*Presenting author indicated with* *

NOV. 2016

## PROFESSIONAL SERVICE

REVIEWER:    *Journal of Risk Analysis*

## AFFILIATIONS: PREVIOUS

**Institute for Operations Research and Management Sciences (INFORMS)**
*Vice President, University of Michigan Chapter (Elected)*

JAN 2019 -
DEC 2020

**Institute for Operations Research and Management Sciences (INFORMS)**
*Outreach Committee Co-chair, University of Michigan Chapter (Appointed)*

JAN 2018 -
DEC 2018

**University of Michigan Central Student Government**
*Rackham Graduate School Representative (Elected)*

FEB 2018 -
NOV 2018

**Dixon Global Policy Scholar**
Studied European identity and policy-making as one of 12 selected students in a 12-day study abroad program through Belgium, Luxembourg, France, Germany, and Switzerland.
Continued policy studies through two courses and bi-weekly peer discussion groups, culminating in a policy proposal document for a topic of our choosing.

SPRING 2014 –
SPRING 2017

**Clemson University Student Government: Sustainability Committee**
*Sustainable Education Programs Chair*
Led subcommittee to plan and carry out sustainability education events with local elementary and high schools.
Organized and supported initiatives like Earth Day, Sustainability Week, Student Sustainability Initiative, "Zero-waste" events, and education programs on campus.
Promoted sustainable organizations and events on campus and in the community.

FALL 2013 –
SPRING 2017

**Clemson University Women's Rowing Team**
Balanced academics and six days of strenuous training per week.
Competed in all home regattas.

FALL 2013 –
SPRING 2014