

The Cadmus Group Analyst

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Math 288i – Summer 2022

Dr. Bremer

Overview

- The Internship search
- Company Background
- Projects worked on
- Methodologies
- Skills Developed/Learned
- Opportunities

The Internship Search

- Full-time Fall 2018 to Fall 2020
 - Part-time Fall 2019
 - Worked as a Teaching Associate
- Applied to job/internship opportunities
 - LinkedIn, Indeed, Handshake, ...
 - Hired full time in January 2021 by Cadmus
- Job fairs
 - Handshake, MeetUp, ...

About Cadmus

- Environmental consulting firm
 - Portland, founded in 1983, ~750 employees
- Energy Sector: Economics and Advanced Analytics
 - Entry level statistician
 - Sampling design and margin of error analyses
 - Conducts research on energy savings programs to provide conclusions/recommendations to utilities companies

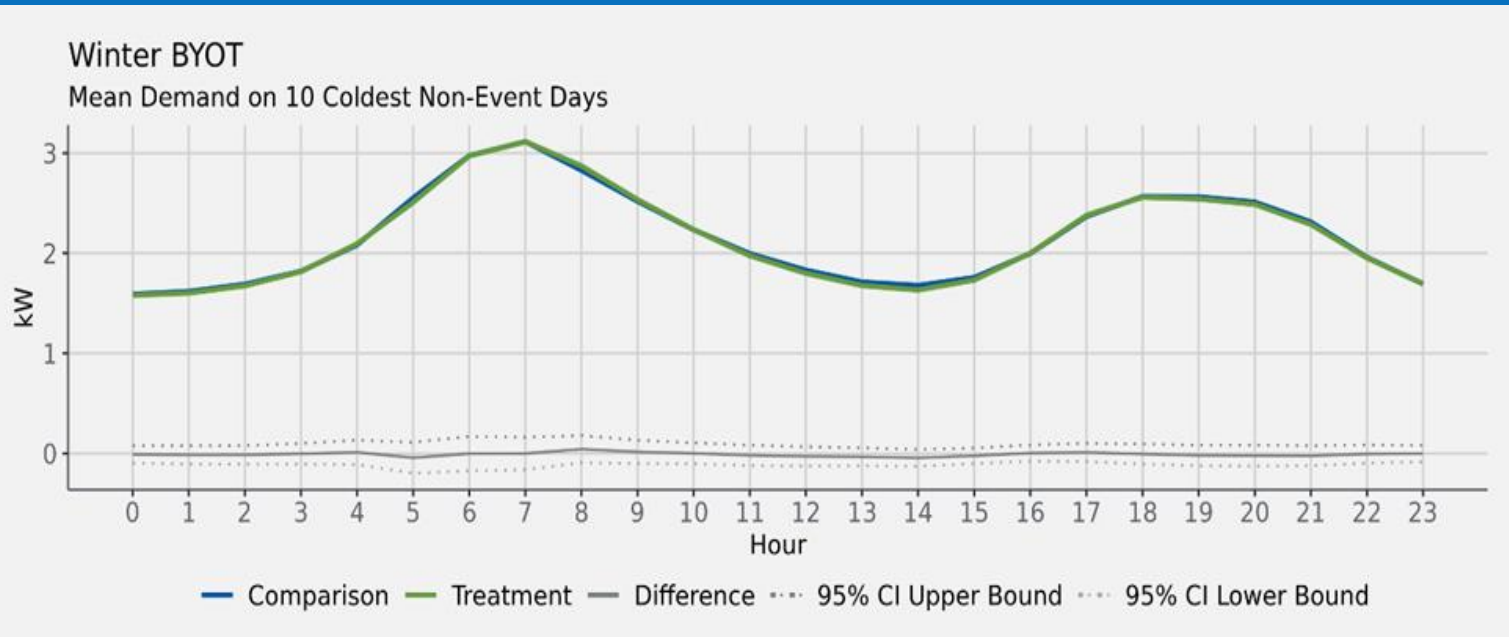
Projects worked on

- Wide variety of projects including:
 - Demand Response Evaluations
 - Peak-demand savings treatment implemented on high energy usage days
 - Panel data analysis, weather data, energy usage data, ...
 - Impact Evaluations
 - Energy savings program
 - Sampling design, margin of error analyses, engineering algorithms, ...
 - Low-Income Needs Assessments
 - Spatial analysis used for targeting vulnerable populations
- All work involves lots of data cleaning, data wrangling, ...
 - I mainly use R, Excel, and GIS
 - Sometimes Python, SQL, SAS, ...

Electric Utility Smart Thermostat Demand Response Pilot

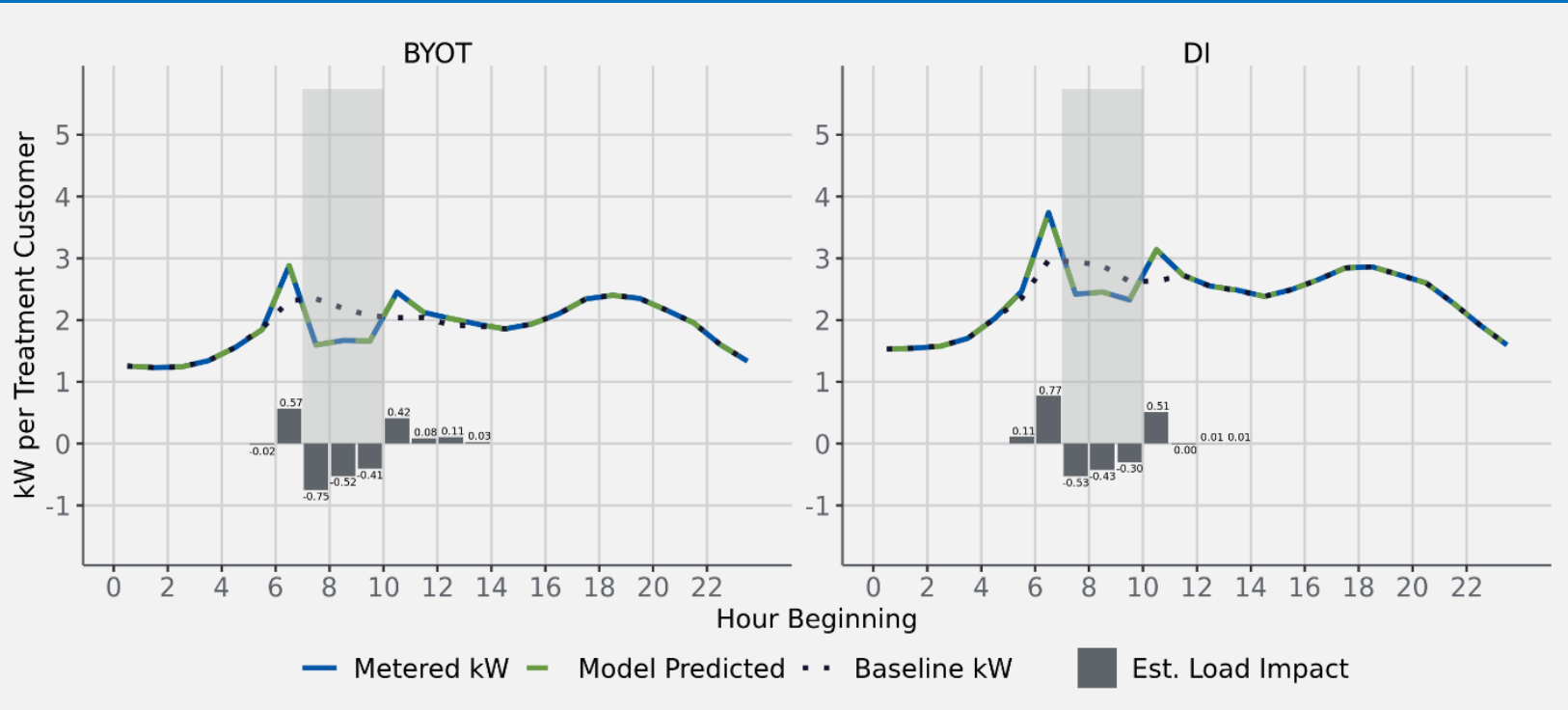
- Goal: Reduce customer energy usage during peak hours on days with very high energy demand
- Multiple “events” conducted throughout evaluation season
 - Treatment administered is the pre-cooling of homes using smart thermostat technology
- Panel Data Analysis
 - Time-series data, Panel regression models, difference-in-difference estimation, ...

Matched Group Comparison Equivalency Plot



- Quasi-experimental design
 - Matched group comparison using propensity score matching
 - Logistic Regression
- Quality of matched-group comparison is assessed with data visualization and significance testing

Event Impacts Plot



- Panel regression models
 - Difference-in-difference estimation
 - Estimate the treatment effect on average peak-demand savings per customer
 - Fixed effects model

Skills Developed/Learned

- Statistical Programming
 - Coding in R daily (*MatchIt*, *h2o*, *data.table*, ...)
 - Python, GIS, SQL, PowerBI, ...
- Panel Data Analysis
 - Matched group comparisons
 - Panel regression models
- Professional insights
 - Budgeting
 - Communication

Opportunities

- Taliesin Namkai-Meche Memorial summer internship (undergraduates)
- Full-time position as Research Analyst or Analyst (graduate students)

- Thank you

- Resources

- Cadmus [Cadmus \(cadmusgroup.com\)](http://cadmusgroup.com)
- Meetup [Meetup—20 years of real connections For communities that last](#)
- Handshake [Students | Handshake \(joinhandshake.com\)](http://joinhandshake.com)