JOHN PAUL HELVESTON

I am a researcher, data scientist, engineer, R developer, musician, and swing dancer. I have expertise in measuring and modeling consumer preferences, developing surveys and analyzing survey data, developing software packages for analyzing data and model building in R, and technology policy in the electric vehicle industry. My academic research focuses on understanding relationships between technological change and consumers, firms, markets, and policy, with a goal of accelerating transitions to environmentally sustainable and energy-saving technologies.

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EDUCATION

2016 — **Carnegie Mellon University**
Ph.D. & M.S. in Engineering and Public Policy

2010 — **Virginia Tech**
B.S. in Engineering Science and Mechanics

EMPLOYMENT

2018 | 2022 — **Assistant Professor**
George Washington University (Washington, D.C.)

- Project and team management
- Design, conduct, and analyze consumer preference experiments
- Communicate results in reports, books, papers, and talks
- Develop open source teaching materials in data science
- Develop research software for choice modeling and survey design
- Teach undergraduate and graduate technical coursework
- Successfully write grant proposals for external funding
- Recruit, supervise, and lead a team of skilled professionals
- Organize conferences and events

2016 | 2018 — **Postdoctoral Fellow**
Institute for Sustainable Eergy, Boston University (Boston, MA)

SELECT TALKS

2021 — **Obtaining willingness to pay estimates from preference space and willingness to pay space utility models**
Turbo Choice Modeling Panel, Sawtooth Software Conference (San Antonio, TX)
jhelvy.com/talks/2021-04-20-sawtooth-conf-logitr/

2021 — **Using formr to create R-powered surveys with individualized feedback**
rstudio::conf (virtual)
jhelvy.com/talks/2021-01-21-surveys-with-formr/

PROGRAMMING

R / tidyverse / Shiny
Python
HTML / CSS / javascript
git / GitHub
Matlab
Apache Arrow
SQL
Sawtooth Software

DATA ANALYSIS

Discrete choice modeling
Monte carlo simulation
Data visualization (e.g., ggplot2)
Exploratory data analysis
Statistical regression
Bayesian data analysis (e.g., Stan)
Research software development

LITERATE CODING

RMarkdown / quarto
xaringan / revealjs slides
LaTeX

TRAINING AND TEACHING SKILLS

2019 | 2022

Marketing analytics for design decisions
Developed a graduate course introducing the conjoint analysis method for quantifying consumer preferences to inform technical design decisions, implemented using the R programming language.
madd.seas.gwu.edu/

2020 | 2022

Exploratory data analysis
Developed a project-based undergraduate course providing an introduction to exploring and visualizing data using the R programming language.
eda.seas.gwu.edu/

2019 | 2022

Programming for analytics
Developed an introductory undergraduate course providing a broad overview of fundamental programming concepts and problem-solving skills using the R programming language.
p4a.seas.gwu.edu/

COMMUNITY ROLES

2020 | 2022

GW Coders
Cofounder and organizer
gwcoders.github.io

2020 | 2022

The Distillery
Founder and maintainer
distillery.rbind.io/

2019 | 2022

Industry Studies Association
Dissertation award chair & conference organizing committee
industrystudies.org/

SELECT PAPERS

2019

China's key role in scaling low-carbon energy technologies
Science
doi.org/10.1007/s11002-020-09541-9

2018

Pooling stated and revealed preference data in the presence of endogeneity
Transportation Research Part B: Methodological
doi.org/10.1016/j.trb.2018.01.010

20 scientific articles, 489 citations, h-index: 6
jhelvy.com/research

R PACKAGES

logitr
Fast estimation of mixed logit models with WTP space utility parameterizations

cbcTools
Tools for designing choice-based conjoint survey experiments

renderthis
Render media to different formats

LANGUAGES

Chinese (mandarin)
- speaking: *fluent*
- reading / writing: *intermediate*

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