Pingfan Hu

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EDUCATION

2026	**George Washington University**	Ph.D.	Systems Engineering	GPA 4.0
2018	**University of Sydney**	M.P.E.	Mechanical Engineering	GPA 3.5
2015	**Pennsylvania State University**	B.S.	Industrial Engineering	GPA 3.2

SKILLS

- **Agentic AI Engineering**: Claude Code Workflows, AI Skill Authoring, Harness Design
- **Data Science**: PostgreSQL, tidyverse, ggplot, Survey Design, Discrete Choice Modeling, Logit Modeling
- **Programming**: R, Python, Git, SQL, Shell, JavaScript, App Development
- **Web Development**: Quarto, R Shiny, HTML, CSS, Website Design and Deployment

RESEARCHES

`surveydown` Survey Platform - *Flagship Project of the Helveston Lab at GWU* 2024-2025

- Developed `surveydown`, an open-source, feature-packed R package for programmable and reproducible surveys, combining Quarto, Shiny, and PostgreSQL.
- Implemented UI/UX design, SQL and survey templates.
- Achieved 170+ stars on GitHub and 8000+ downloads on CRAN.
- Published a journal article in *PLOS One* as 1st author with 1000+ views.
- Presented at Posit Conference, USRSE, and GW OSCON in 2025.
- Awarded 2nd prize at GW OSPO and profiled by GW Engineering.

`sdstudio` Survey GUI - *Companion Project of `surveydown`* 2025-2026

- Developed `sdstudio` as GUI and SQL support to `surveydown`.
- Implemented UI/UX design for survey preview and SQL visualization.
- Achieved 1200+ downloads on CRAN.
- Presented at GW OSCON 2026.

BEV Smart Charging Adoption Project - *Joint Project between GWU, UC Davis & UC Irvine* 2023-2024

- Performed survey fielding, data wrangling, and discrete choice modeling.
- Collected and filtered 1300+ valuable responses from Meta and Dynata throughout the U.S. with 100% BEV ownership to ensure data quality.
- Leveraged mixed logit models for consumer preferences and sensitivities to various smart charging program attributes.
- Published a journal article in *IOP Science* and a conference paper in *IEEE* as 1st author with 300+ views altogether.
- Presented at TRB 2024.

Smart Charging Cost-Efficiency Project - *Joint Project between GWU, UC Davis & UC Irvine* 2025-2026

- Built a scenario-based simulation of 10,000 BEVs with travel patterns from the National Household Travel Survey.
- Processed time series grid net load data from GridStatus.io for CAISO and NYISO to construct regional baselines.
- Swept across 5 TOU windows and 11 enrollment levels to quantify peak-shaving potential and cost efficiency.
- Submitted a journal paper to *Environmental Research: Infrastructure and Sustainability*, under review.
- Presented at GW 2026 R&D and Senior Design Showcase.

WORK EXPERIENCE

Harsco Rail - *Software Engineer* SC, USA & Beijing, China 2021 - 2022

- Led cross-border Switch Undercutter and Grinder software projects, achieving 25 software releases while providing critical on-site technical support.
- Combined expertise in embedded C++ coding, CAN bus communication systems, and mechanical design with project management skills to track and deliver complex initiatives.

GE Appliances - *Project Engineer* Qingdao, China 2019 - 2020

- Managed 500+ components across 9 GE washing machine models from development to production.
- Contributed to various home appliances' engineering design to enhance product functionality and user experience, showing expertise in PLM management and engineering.

Kurtz Ersa GmbH - *Assistant Process Engineer (Intern)* Wertheim, Germany 2017

- Led a 2-month Design of Experiments for innovative soldering technology for 200 PCB samples.
- Conducted Asian market analysis for Ersa's 2017 marketing strategy.
- Served as the face of the company by starring in Ersa's first Asian market promotional video.