

# TA-WEI (DAVID) HUANG

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## EDUCATION

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| <b>Harvard Business School</b><br>Ph.D. in Quantitative Marketing<br>Affiliate, Customer Intelligence Lab @ Digital Data Design (D <sup>3</sup> ) Institute at Harvard | 2020 – 2025 (Expected) |
| <b>National Taiwan University</b><br>M.S. in Statistics  | 2015 – 2017            |
| <b>National Tsing Hua University</b><br>B.S. in Quantitative Finance (with Highest Distinction)  | 2011 – 2015            |

## RESEARCH INTERESTS

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|----------------|--|
| <b>Topics</b>  | Targeting and Personalization, Customer Value Management, Customer Privacy   |
| <b>Methods</b> | Causal Inference, Multitask Learning, Representation Learning, Transfer Learning, Deep Learning, Differential Privacy, Fair Machine Learning, Reinforcement Learning |

## PUBLICATION

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- **Doing More with Less: Overcoming Ineffective Long-term Targeting Using Short-Term Signals.**  
Ta-Wei Huang and Eva Ascarza (2024)  
*Forthcoming, Marketing Science.*

## WORKING PAPERS

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- **Incrementality Representation Learning: Synergizing Past Experiments for Intervention Personalization.**  
Ta-Wei Huang, Eva Ascarza, and Ayelet Israeli (2024)  
*Job Market Paper. Under Review.*
- **Debiasing Treatment Effect Estimation for Privacy-Protected Data: A Model Auditing and Calibration Approach.**  
Ta-Wei Huang and Eva Ascarza (2023)  
*Revise & Resubmit at Management Science.*

## WORK IN PROGRESS

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- **Right to Be Forgotten: Efficient Removal of Individual Customer Information from Targeting Policy through Distributed Policy Learning and Unlearning**  
*Status: Data collection complete. Under model development.*

- **Survival Bias in Adaptive Personalization**  
*Status: Under simulation analysis & theory development.*
- **Exploiting Spillovers: Enhancing Cross-Brand Sales through Co-purchase Network Targeting**  
with Eva Ascarza and Ayelet Israeli  
*Status: Data collection complete. Under model development.*
- **Managing Short-term Monetization and Long-term Retention with Multi-task Deep Reinforcement Learning**  
with Liangzong Ma, Eva Ascarza, and Ayelet Israeli  
*Status: Data collection complete. Under model development.*

## HONORS & AWARDS

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- AMA-Sheth Foundation Doctoral Consortium Fellow, 2023
- ISMS Marketing Science Doctoral Consortium Fellow, 2021 & 2022
- Summer Research Fellowship, Institute of Mathematics, Academia Sinica, 2015
- Phi Tau Phi Scholastic Honor Society, 2015
- First Prize, International ICT Innovation Competition, 2014
- Hui-Chun Chin and Tsung-Dao Lee Undergraduate Research Endowment, 2014
- Undergraduate Research Fellowship, Ministry of Science and Technology Taiwan, 2013
- Dean's Award of Outstanding Academic Performance, National Tsing Hua University, 2013
- Academic Excellence Award, National Tsing Hua University, 2011, 2013, 2014

## RESEARCH PRESENTATIONS

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- **Incrementality Representation Learning: Synergizing Past Experiments for Intervention Personalization**
  - ISMS Marketing Science Conference, June 2024
  - American Causal Inference Conference (Poster), May 2024
  - Interactive Marketing Research Conference, May 2024
  - HBS Marketing Seminar, May 2024
- **Debiasing Treatment Effect Estimation for Privacy-Protected Data: A Model Auditing and Calibration Approach**
  - Conference on Digital Experimentation @ MIT (Oral), November 2023
  - ISMS Marketing Science Conference, June 2023
  - American Causal Inference Conference (Oral), May 2023
  - HBS Marketing Seminar, May 2023
- **Doing More with Less: Overcoming Ineffective Long-term Targeting Using Short-Term Signals**
  - Marketing Dynamics Conference, September 2023
  - ISMS Marketing Science Conference, June 2022
  - American Causal Inference Conference (Poster), May 2022
  - HBS Marketing Seminar, May 2022
  - HBS Digital Workshop, March 2022

## TEACHING EXPERIENCE

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- **Harvard Business School**
  - Teaching Fellow, **Managing Customers for Growth** (MBA Elective), Fall 2023
  - Teaching Fellow, **Data-driven Marketing** (Harvard Business Analytics Program), Fall 2023
  - Teaching Fellow, **Managing Customers for Growth** (MBA Elective), Fall 2022
- **Self-developed Online Courses**
  - Instructor, **Data-informed Product Strategy** (2,043 students; Evaluation: 4.9/5.0)
  - Instructor, **Business Analytics Using R** (1,846 students; Evaluation: 4.9/5.0)
  - Instructor, **Text Mining Using R** (519 students; Evaluation: 4.6/5.0)
- **Practitioner Training**
  - Corporate Training, **Dcard** (a leading social media platform in Taiwan), 2023
  - Corporate Training, **Dcard** (a leading social media platform in Taiwan), 2022
  - Corporate Training, **FooSpace** (a retail tech start-up in Taiwan), 2021
  - Speaker, **Taiwanese Data Science Meetup**, 2021
  - Mentor, **Taiwanese Data Science Mentorship Program for Working Professionals**, 2020
  - Instructor, **Data-informed Decision Making for Commercial Banking** (two-day workshop) hosted by Taiwan Academy of Banking and Finance, 2020
  - Speaker, **Taiwanese Data Science Meetup**, 2019
- **Guest Lecturer and Mentorship**
  - Guest lecturer, **Service Science Seminar** at National Tsing Hua University, Fall 2020
  - Guest lecturer, **Time Series Analysis** at National Tsing Hua University, Spring 2020
  - Guest lecturer, **Data Analytics Club** at National Taiwan University, Summer 2020
  - Mentor, **Business Analytics Using Data Mining** at National Tsing Hua University, Fall 2019
  - Guest lecturer and Mentor, **BizPro Club** at National Taiwan University, 2016 – 2023

## TECHNICAL NOTES & TEACHING MATERIALS

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- **Travelogo: Understanding Customer Journeys**, Eva Ascarza and Ta-Wei Huang (2024), *HBS Teaching Note* [524044]
- **Customer Data Privacy**, Eva Ascarza and Ta-Wei Huang (2023), *HBS Background Note* [524005]
- **Design and Evaluation of Targeted Interventions**, Eva Ascarza and Ta-Wei Huang (2023), *HBS Technical Note* [524034], *Dataset* [524703]
- **Managing Customer Retention at Teleko**, Eva Ascarza and Ta-Wei Huang (2023), *HBS Teaching Note* [524036], *Dataset* [524704]

## INDUSTRY EXPERIENCE

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|------------------------|-----------------------------|-------------|
| • <b>Migo.tv</b>       | Data Team Lead              | 2019 – 2020 |
| • <b>Mastercard</b>    | Consultant, Data & Services | 2018 – 2019 |
| • <b>InrayTek Inc.</b> | Data Scientist              | 2017 – 2018 |

## RELEVANT COURSEWORK

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- **Statistics and Machine Learning**
  - Inference on Causal and Structural Parameters Using ML and AI
  - Differential Privacy and Algorithmic Fairness
  - Design of Experimental and Non-experimental Studies
  - Sequential Decision Making (Reinforcement Learning)
  - Advanced Demand Modeling
  - Bayesian Modeling and Inference
  - Statistical Machine Learning
  - Econometrics I
- **Economics**
  - Industrial Organization I
  - Microeconomics I
  - Microeconomics II
  - Stochastic Choice
- **Marketing and Behavioral Science**
  - Marketing Models - Fundamental
  - Marketing Models - Methods
  - Consumer Behaviors
  - Field Experiments
  - Science of Behavior Change

Victor Chernozhukov  
Cynthia Dwork  
José Zubizarreta  
Susan Murphy  
Moshe E. Ben-Akiva  
Tamara Broderick  
Lucas Janson  
George Bruich

Ariel Pakes  
Rahul Deb  
Dennis Yao / Christopher Avery  
Tomasz Strzalecki

Navid Mojr  
Navid Mojr  
John Deighton  
Michael Luca  
Todd Rogers

## REFERENCES

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- **Eva Ascarza** ([eascarza@hbs.edu](mailto:eascarza@hbs.edu))  
Jakurski Family Associate Professor of Business Administration, Harvard Business School
- **Ayelet Israeli** ([aisraeli@hbs.edu](mailto:aisraeli@hbs.edu))  
Marvin Bower Associate Professor, Harvard Business School
- **Elie Ofek** ([eofek@hbs.edu](mailto:eofek@hbs.edu))  
Malcolm P. McNair Professor of Marketing, Harvard Business School
- **Sunil Gupta** ([sgupta@hbs.edu](mailto:sgupta@hbs.edu))  
Edward W. Carter Professor of Business Administration, Harvard Business School

## OTHERS

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- **Programming** R, Python, C++, C, Java, SQL, Spark, Keras, Tensorflow, Stan
- **Languages** English (Fluent), Mandarin (Native), Tâi-Gí (Intermediate)