

Kyle L. Woodward

CONTACT INFORMATION

2155 12th Avenue
San Francisco, CA 94116

+1 323 3 10 5 16 8
san.francisco@kylewoodward.com
<https://kylewoodward.com/>

EDUCATION

UCLA, Los Angeles, CA
Ph.D., Economics
Advisor: Marek Pycia

June 2015

UCLA, Los Angeles, CA
Master of Arts, Economics

June 2011

Stanford University, Stanford, CA
Bachelor of Science, Mathematics
Minors: Economics and Computer Science

June 2006

PROFESSIONAL HISTORY

Apple

Machine Learning Scientist/Auction Economist

February 2024–present

Develop statistical and behavioral models to predict outcomes of marketplace experiments. Build framework distinguishing experimental from long-term outcomes, and conceive workarounds to bring the two into harmony. Pilot experiments to improve platform outcomes and experiment health. Promote respect for participant interests and incentives in designing marketplace mechanisms.

Gopuff

Senior Data Scientist, Economics

February 2022–February 2024

Leverage NLP and structural economic techniques to pilot experiments to improve ad returns and calibrate demand parameters, as well as to audit existing data pipelines. Develop ad auction simulator for ad placement, focusing on joint goals of improved relevance ranking and revenue/CTR optimization. Design experiments and apply causal inference to off-platform spend optimization. Build forecasting algorithms and ML pipelines for ad placement, promotion assignment, and CRM delivery. Advise external teams on best practices.

University of San Francisco

Adjunct Professor of Economics

August 2023–present

Teach graduate-level courses on microeconomic theory and the development and design of institutions. Advise student research projects, and liaise between the academic and tech communities.

University of North Carolina at Chapel Hill

Assistant Professor of Economics

July 2015–present (on leave)

Conduct cutting-edge microeconomic research, specializing in game theory and market design. Teach undergraduate and graduate courses and advise student theses. Publish work in top-tier journals, present at international conferences, persuade policymakers to pursue intelligent implementation, and (as a reviewer) contribute to health of the field.

UCLA

Graduate Student

September 2009–June 2015

Pursued advanced study of microeconomic theory and wrote dissertation on auctions of multiple units. Served as research assistant for econometrics research. Led undergraduate courses, and led recitation for undergraduate and graduate courses.

Intuit

Senior Data Analyst

December 2007–February 2009

Homestead Technologies was acquired by Intuit, and previous role converted to Senior Data Analyst. Monitored product pricing and assessed the effectiveness of marketing campaigns.

Homestead Technologies

Manager, Data Analysis

July 2006–December 2007

Hired as data analyst. Pulled business statistics and conducted analyses of pricing and customer retention. Promoted to manager and hired team of analysts to pull business statistics and conduct analyses of pricing and customer retention. Designed sales compensation scheme.

TECHNICAL PROFICIENCY

C, Excel, HTML, Java, JavaScript, Logo, LOLCODE, MATLAB, Perl, PHP, Piet, Python, R, shell scripting, SQL

PUBLICATIONS

Reserve Prices Eliminate Low Revenue Equilibria in Uniform Price Auctions

With Justin Burkett

Games and Economic Behavior, 2020

Uniform Price Auctions with a Last Accepted Bid Pricing Rule

With Justin Burkett

Journal of Economic Theory, 2020

WORKING PAPERS

Sharing Cost Information in Dynamic Oligopoly

With Greg Kubitz

Revise and resubmit, American Economic Journal: Microeconomics

Auctions of Homogeneous Goods: A Case for Pay-as-Bid

With Marek Pycia

Revise and resubmit, Journal of Political Economy

Intertemporal Allocation with Unknown Discounting

With Justin Burkett

Revise and resubmit, Journal of Economic Theory

Bidding in Multi-Unit Auctions under Limited Information

With Bernhard Kasberger

Revise and resubmit, Journal of Economic Theory

Equilibrium with Monotone Actions

Reject and resubmit, Econometrica

Mixed-Price Auctions for Divisible Goods

Pollution Permits: Efficiency by Design
With Marek Pycia

Ambiguous Scoring Rules
With Justin Burkett

Self-Auditable Auctions

Moment Equilibrium
With Bernhard Kasberger

Biased Sampling Equilibrium

Strategic Ironing in Pay-as-Bid Auctions

PRESENTATIONS

2024

Conference on Mechanism and Institution Design (Budapest, Hungary); Queensland University of Technology (Brisbane, Australia)

2023

Stanford University (Stanford, CA); North American Summer Meeting (Los Angeles, CA); EC'23 (London, U.K.); SAET (Paris, France)

2022

Stanford University (Stanford, CA); IFN (Stockholm, Sweden); Oxford University (Oxford, U.K.); Stony Brook International Conference on Game Theory (Stony Brook, NY); NBER Market Design Working Group (Stanford, CA)

2021

Swiss Society of Economics and Statistics (Zürich, Switzerland/Virtual); Games2020 (Budapest, Hungary/Virtual); INFORMS (Anaheim, CA/Virtual)

2020

(COVID)

2019

Southern Economic Association (Fort Lauderdale, FL); INFORMS (Seattle, WA); North American Summer Meeting (Seattle, WA); Asia Meeting of the Econometric Society (Xiamen, China); Queensland University of Technology (Brisbane, Australia)

2018

INFORMS (Phoenix, AZ); Oxford University (Oxford, U.K.); University of Rochester (Rochester, NY); Collegio Carlo Alberto (Torino, Italy); University of Zurich (Zürich, Switzerland)

2017

Southern Economic Association (Tampa, FL); Columbia/Duke/Northwestern/MIT Theory Conference (Durham, NC); INFORMS (Houston, TX); North American Summer Meeting (St. Louis, MO); MWET (Lexington, KY); ZWABT (Zürich, Switzerland); Paris School of Economics (Paris, France)

2016

INFORMS (Nashville, TN); NC State University (Raleigh, NC); EC'16 (Maastricht, Netherlands); SAET (Rio de Janeiro, Brazil)

2015

ISMP (Pittsburgh, PA); UNC–Chapel Hill (Chapel Hill, NC); Northwestern University (Evanston, IL); SWET (Tucson, AZ)

2014

SWET (Irvine, CA)

MEDIA

“Anxiety builds over S.F. school closures. Here’s when SFUSD will release the list,” *San Francisco Chronicle* (31 July 2024)

“San Francisco school board considering cuts that could include closing schools,” *KTVU* (29 August 2023)

“It’s Never Been Smarter to Hate Duke,” *The Wall Street Journal* (20 March 2019)

TEACHING

USF ECON 601: Microeconomics: Theory and Applications

Fall 2023

UNC ECON 701: Analytical Methods for Mathematical Economics

Fall 2021; Fall 2020; Fall 2019; Fall 2018; Fall 2017; Fall 2016; Fall 2015

UNC ECON 510: Advanced Microeconomic Theory

Fall 2020 (honors); Spring 2019; Fall 2017; Spring 2017; Fall 2015

UNC ECON 890: Contract Theory

Fall 2019; Spring 2019

UCLA ECON 495: Teaching College Economics

AY 2013-2014 (Kathleen McGarry)

UCLA ECON 97: Economic Toolkit

Summer 2013

UCLA ECON 106D: Designed Markets

Spring 2013 (Marek Pycia)

UCLA ECON 41: Statistics for Economists

Winter 2013 (Rosa Matzkin); Winter 2012 (Maximilian Kasy); Fall 2010 (Kata Bognar)

UCLA ECON 101: Microeconomic Theory

Fall 2012 (Jernej Čopič); Winter 2011 (Bill Zame)

GGBW: Introduction to Game Theory

Summer 2012; Summer 2011

UCLA ECON 11: Microeconomic Theory

Spring 2012 (Bill Zame)

UCLA ECON 201A: Theory of the Firm and Consumer

Fall 2011 (Bill Zame)

UCLA ECON M134: Environmental Economics

Summer 2011 (Matt Kahn)

UCLA ECON 201C: Equilibrium and Welfare
Spring 2011 (John Riley and Joe Ostroy)

(MS)² CS: Introduction to Computer Science
Summer 2005

ADVISING

Graduate committees

Andrew deJong (UNC, 2022); Julien Isnard (UNC, 2022); Zhechen Yu (UNC, 2021; NCGA); Aisling Winston (UNC, 2018; University at Buffalo)

Undergraduate honors theses

Justin Hadad (UNC, 2021; Rhodes Scholar); Aarthi Kannan (UNC, 2021; Harvard Law); Patrick Costley (UNC, 2020; UCLA Economics)

REVIEWING

B.E. Journal of Theoretical Economics; Dynamic Games and Applications; EC'16; EC'22; EC'23; Econometrica; Economic Theory; Economics Letters; Electronic Commerce Research; Games and Economic Behavior; IEEE Access; IEEE Systems Journal; IEEE Transactions on Automatic Control; IEEE Transactions on Systems, Man, and Cybernetics: Systems; Information Systems Research; International Economic Review; International Journal of Game Theory; Journal of Economic Theory; Journal of Economics & Management Strategy; Journal of the European Economic Association; Journal of Mathematical Economics; Management Science; MATCH-UP 2019; National Science Foundation; PLOS ONE; RAND Journal of Economics; Review of Economic Design; Review of Economic Studies; Theoretical Economics

HONORS

Junior Faculty Development Award, UNC	August 2017
Dissertation Year Fellowship, UCLA	June 2014
Graduate Economics Association Service Award, UCLA	May 2014
Economics Teaching Assistant Award, UCLA	October 2013

SERVICE

Rosa Parks Elementary PTA <i>Treasurer</i>	July 2023 – present
Rosa Parks Elementary PTA <i>Parliamentarian</i>	December 2022 – June 2023
Rosa Parks Elementary PTA <i>Auditor</i>	June 2022 – December 2022
San Francisco Parent Coalition <i>Budget Committee Member</i>	April 2022 – present
UNC Economics Placement Committee <i>Co-director</i>	August 2015 – August 2017
UCLA Social Sciences Council <i>Representative</i>	June 2011 – November 2013
UCLA Graduate Economics Association <i>Commissar</i>	June 2011 – April 2013
UCLA Graduate Economics Association <i>Vice President</i>	September 2010 – June 2011