March 29th, 2022

Miguel Alcobendas

CONTACT INFORMATION

Los Angeles, CA, United States
Email: maalcobendas@gmail.com
Phone: +1 669 224-8468
LinkedIn: http://www.linkedin.com/in/maalcobendas/

SUMMARY

Tech lead improving the monetization of display and video ad exchanges. I use applied econometrics, microeconomics and machine learning to study the behavior of participants, optimize marketplace decision making and improve advertising market design.

WORK EXPERIENCE

Yahoo! Research – Los Angeles, United States

Sr. Research Scientist / Tech Lead *Dec 2020 – ...*

- Tech lead improving the monetization of display and video ad exchanges.
  - Auction Mechanism Design: e.g. design and implementation of auction floor and revenue margin optimizations
  - Evaluation of policy interventions using experiments and observational methods: e.g. Impact assessment of the transition to first price auction in the ad display marketplace using synthetic control methods
- Research collaborations with academia
  - with Matthew Shum (Caltech) and Shunto Kobayashi (Caltech), (2021): "The Impact of Privacy Measures on Online Advertising Markets" https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3782889
  - with Robert Zeithammer(UCLA), (2021): "Adjustment of Bidding Strategies After a Switch to First-Price Rules" https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4036006
- Other: Member of the Yahoo research promotion committee, founder of the Yahoo Econ Reading group, mentor of PhD Interns and other research scientists, speaker at the internal tech conference (TechPulse)

Research Scientist – Los Angeles, United States *Jan 2020 – Dec 2020*

Sr. Research Engineer – Sunnyvale, United States *Dec 2016 – Jan 2020*

Research Engineer – Sunnyvale, United States *Aug 2014 – Dec 2016*

Autonomous University of Barcelona – Barcelona, Spain

Lecturer: Statistics for undergraduate students *Feb 2008 – Sep 2009*

Teacher Assistant: Statistics, Macroeconomics and Econometrics courses for undergraduates *Feb 2006 – Sep 2007*

Research Assistant of Professor Salvador Barberà *Sep 2007 – Sep 2009*

EDUCATION

Ph.D., Economics - Toulouse School of Economics - Toulouse, France *Sep 2009 - Jun 2014*

Visiting PhD Student - University of California - Irvine, United States *May 2012 - Jul 2014*

M.A., Models and Methods of Quantitative Economics - Autonomous University of Barcelona - Barcelona, Spain & Pantheon-Sorbonne University - Paris, France *Sep 2005 - Sep 2007*

B.A., Economics - Autonomous University of Barcelona - Barcelona, Spain *Sep 1999 - Jun 2003*

B.E., Industrial Engineering - Polytechnic University of Catalonia - Barcelona, Spain *Sep 1995 - Feb 1999*

LANGUAGES

English (Fluent), French (Intermediate), Spanish (Native)

COMPUTER SKILLS

R, Hive, SQL, python, pySpark, Matlab, Pig

RESEARCH

"The Impact of Privacy Measures on Online Advertising Markets" (with Matthew Shum (Caltech) and Shunto Kobayashi (Caltech)). Submitted - 2021. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3782889

"Adjustment of Bidding Strategies After a Switch to First-Price Rules" (with Robert Zeithammer (UCLA)). Submitted - 2021. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4036006

"Optimal Reserve Prices in Upstream Auctions: Empirical Application on Online Video Advertising" (with Sheide Chammas, and Kuang-chih Lee). 2016 ACM SIGKDD Conference

"Airline-Airport Agreements in the San Francisco Bay Area: Effects on Airline Behavior and Congestion at Airports". Special Issue of Economics of Transportation: Airlines and Airports. Economics of Transportation 3 (2014):58-79

RESEARCH WITH ABSTRACT

"The Impact of Privacy Measures on Online Advertising Markets" (with Matthew Shum (Caltech) and Shunto Kobayashi (Caltech)). Submitted - 2021. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3782889

Abstract: Privacy protection measures in online markets have ramped up in recent years, typified by both government initiatives, as well as firm-level actions such as designing web browsers which block “third-party cookies” by default. We estimate a structural model of auctions in online advertising using bid-level auction data

from Yahoo. Then we simulate several counterfactual scenarios, focusing on evaluating the likely effects of Google's announced plan, starting in 2023, to block third-party cookies by default on Chrome, its market-leading browser. We find that such a ban would reduce publisher revenue by 45%, and bidder (advertiser) surplus by 35%. Moreover, our simulations also indicate that, amidst a third-party cookie ban, bidders who are able to leverage their informational advantage on users can gain surplus from the ban.

***"Adjustment of Bidding Strategies After a Switch to First-Price Rules" (with Robert Zeithammer (UCLA)). Submitted* - 2021.**

Abstract: We document the response of bidders to a switch in auction pricing rules by a platform for selling online advertising impressions. The platform switched from a second-price auction to a first-price auction, so the same bidder bidding to show the same creative in the same location on the same webpage should bid less after the switch than before the switch. We show that bids indeed decline after the switch, but they do not decline enough given the actual competition each bidder is facing after the switch. To measure whether bids declined enough, we propose a nonparametric estimator of a lower bound on the bidder's valuation underlying each post-switch bid. Bids did not decline enough in that the estimated bounds substantially exceed the pre-switch valuations of showing the same creative. We find evidence of an incomplete and slow downward adjustment in bid magnitude over the period of months, whereby bids remain insufficiently shaded for about half the creatives we analyze even three months after the switch. Implications for analysis of bidding in first-price auctions and analysis of short-run A/B tests of different pricing rules are discussed.

***"Optimal Reserve Prices in Upstream Auctions: Empirical Application on Online Video Advertising" (with Sheide Chammas, and Kuang-chih Lee).* 2016 ACM SIGKDD Conference**

Abstract: We consider optimal reserve prices in BrightRoll Video Exchange when the inventory opportunity comes from other exchanges (downstream marketplaces). We show that the existence of downstream auctions impacts the optimal floor. Moreover, it renders the classical derivation of the floor set by a monopolist inadequate and suboptimal. We derive the new downstream-corrected reserve price and compare its performance with respect to existing floors and the classical optimal monopoly price. In our application, the downstream-corrected reserve price proves superior to both.

The proposed model also deals with data challenges commonly faced by exchanges: limited number of logged bids in an auction, and uncertainty regarding the bidding behavior in other exchanges.

The relevance of this study transcends its particular context and is applicable to a wide range of scenarios where sequential auctions exist, and where marketplaces interact with each other.

***"Airline-Airport Agreements in the San Francisco Bay Area: Effects on Airline Behavior and Congestion at Airports".* Special Issue of Economics of Transportation: Airlines and Airports. Economics of Transportation 3 (2014):58-79**

Abstract: This paper provides a methodological framework to analyze the decisions of airlines and travelers taking into account the contractual agreement between airports and airlines. This contract sets the fees that carriers pay for landing, the rental rate for the terminal space that they occupy, as well as the methodology to determine these charges. Using data from San Francisco International Airport (SFO) and Metropolitan Oakland International Airport (OAK), we quantify the effects of changes in the agreement on the behavior of airlines and congestion at airports. In particular, we look at modifications in the design of charges and variations in the operating costs at airports. Counterfactuals suggest that different methodologies to compute charges and changes in airport costs may induce airlines to behave differently, affecting delays at airports.