Demand Side Platforms and Real Time Bidding

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SMADEX
Data-driven Mobile Advertising
YOUR AD HERE
EVOlUTION OF THE MOBILE ADVERTISING VALUE CHAIN

ADVERTISER & AGENCIES (DEMAND)

PUBLISHERS (SUPPLY)
EVOLUTION OF THE MOBILE ADVERTISING VALUE CHAIN

ADVERTISER & AGENCIES (DEMAND) → AD NETWORK → PUBLISHERS (SUPPLY)
EVOLUTION OF THE MOBILE ADVERTISING VALUE CHAIN

ADVERTISER & AGENCIES (DEMAND) → DSP → SSP → PUBLISHERS (SUPPLY)
REAL-TIME BIDDING

SOLD!
HOW DOES RTB WORK?

1. A PERSON OPENS AN APP
HOW DOES RTB WORK?

THE APP REQUESTS AN AD

- From this phone
- In this location
- In this App
HOW DOES RTB WORK?

In < 100 msec, an auction is performed among several DSPs. The winner places the banner in the ad space, and pays second price: 1.41$ CPM.
RTB IS ABOUT TRANSPARENCY
RTB IS ABOUT CONTROL
RTB IS ABOUT DATA AND ALGORITHMS
RTB IS ABOUT TARGETING
RTB IS ABOUT RETARGETING AND LOOK ALIKE TARGETING
RTB IS ABOUT SMART DECISIONS
MEANWHILE... AT SMADEX

450M REQUESTS PROCESSED

12M BIDS PLACED

2M ADS SHOWN

In the last 30 minutes!
WHAT HAPPENS UNDER THE HOOD?

INPUT

↑

FILTER 1

↑

FILTER N

↑

WILLINGNESS TO PAY

↑

OUTPUT
What if we filter sooner based on bid probability…
TIME TO IMPROVE THE FILTERS...
TECH CHALLENGE

- PROCESS A MASSIVE AMOUNT OF REQUESTS PER SECOND
- HIGH PERFORMANCE CONSTRAINTS
- DESIGN, IMPLEMENT, TRAIN, EVALUATE AND OPTIMIZE NOVEL PREDICTIVE ALGORITHMS BASED ON STATE-OF-THE-ART MACHINE LEARNING TECHNIQUES
- COST EFFECTIVE ARCHITECTURE AND DATA STORAGE
FUTURE WORK

● REQUEST FORECASTING TO PREDICT SCALABILITY

● APPLY DEEP LEARNING TO EXTRACT FEATURES FROM IMAGES AND VIDEOS

● PLATFORM ANOMALIES DETECTION

● EXPLORE USER BEHAVIOUR AND RECOMMENDATION TECHNIQUES
THANK YOU VERY MUCH FOR YOUR ATTENTION