YUANPEI CAO

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WORKING EXPERIENCE

Airbnb - CS Platform, Staff Machine Learning Engineer *Jul 2020 - Present*

- Rebooking: Built similar listing recommendation service for reservation rebooking products on Airbnb customer support platform.
- Interactive Voice Response (IVR): Led end-to-end speech recognition and Intelligent Resolution recommendation in Airbnb IVR system.
- Intelligent Resolution (IR): Built machine learning-based Intelligent Resolution products in Airbnb Bot to automate refundable cancellation process and help users self-solve their issues.

Airbnb - AI Labs, Senior Machine Learning Engineer *Mar. 2020 - Jul. 2020*

- Computer vision: Led end-to-end computer vision pipelines including image quality model, room classification, amenity detection, and human face detection, etc for empowering Airbnb search rank, Airbnb listing verification, and marketing.
  - Increased Airbnb bookings by incorporating the image quality model into Airbnb's search recommender system.
  - Increased Airbnb ads CTR by optimizing displayed ads image quality score on Toutiao and Tencent.

Airbnb - Payments, Infra, Data Scientist *Apr. 2018 - Mar. 2020*

- Payment Routing: Led end-to-end project for optimizing payment routes between payment processors.
  - Developed tree segmentation algorithm to find optimal route segments without violating contractual obligations.

AdColony (Opera Software) - Data Scientist *Jan. 2017 - Mar. 2018*

- Ad Install Rate (IR) Prediction: Led end-to-end machine learning project for IR prediction on new ads (cold start).
  - Developed ensemble learning framework to find target users.

EDUCATION

University of Pennsylvania *Sep. 2011 - Aug. 2016*
Ph.D. in Applied Mathematics and Computational Science

The Wharton School, University of Pennsylvania *Sep. 2011 - May 2016*
M.A. in Statistics

Fudan University, Shanghai, China *Sep. 2007 - Jun. 2011*
B.S. in Applied Mathematics (with honors)

KNOWLEDGE AND SKILLS

Python (Scipy, Pandas, Scikit-learn, XGBoost, Tensorflow), R, Ruby, Java, Shell, Matlab
Kubernetes, AWS (ec2, S3, EBS, Redshift, Sagemaker), Google Cloud, MySQL, Presto, Hive, Airflow, Hadoop, Spark