

# YUANPEI CAO

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## WORKING EXPERIENCE

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### **Airbnb - CS Platform, Staff Software 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 COVID Intelligent Resolution products in Airbnb Bot to automate refundable cancellation process and help users self-solve their issues.

### **Airbnb - AI Labs, Senior Software 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

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### **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

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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