

# Xingfan Xia

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## WORK EXPERIENCE

### Amazon Web Service – Athena, Redmond, WA

- Software Engineer Apr 2022 – Present
  - Building the next-gen storage infrastructure for large-scale distributed systems with billions of rows and terabytes of data, improving the performance of AIML and other big data analytics applications.**
  - Tech Stack: Java, Python, Spark, Iceberg, AWS Services(S3, CodePipeline, CodeBuild, Cloudwatch, etc.)**
  - Implemented CTAS(Create Table As Select) feature for Iceberg Tables in Athena query engine. Released Iceberg Table GA Preview RE:INVENT 2022 and millions of CTAS queries being executed since the release.
  - Overhauled the existing Hive JSON Serde library, improved the query execution performance by up to 30%, and fixed non deterministic query results, reduced related ops tickets by 60%.
  - Implemented a virtualized table connector on top of the Iceberg table connector so users can leverage the performance of the Iceberg table engine to access other table formats with limited scalability. Improved the query execution speed of these table formats by approximately 40%, avoided congestion, and is projected to save 4 million in hardware costs per year.
  - Worked on a cross-team endeavor to overhaul the query routing logic from the Athena engine to multiple external services, reduced excessive retry behaviors, and reduced service congestion by up to 32%

### Apple, Cupertino, CA

- Machine Learning Engineer Aug 2020 – Apr 2022
  - Improving users' experience with proactive AI assistant on iOS, macOS, watchOS, tvOS.**
  - Tech Stack: Python, Objective-C, Sklearn Kit, Pytorch, Airflow, Hive, Presto, Spark**
  - Implemented an on-device user profiling framework that consists of several models to predict users' overall interest and preferences as an upstream service that provides signals to downstream consumers like Apple Map, and Apple News.
  - Improved the on-device location model with 4 times of training data and better engineered aggregated features, increased user engagement rate by 9%.
  - Overhauled the topic prediction model leveraging transformer-based model BERT, increased topic prediction accuracy by 14% and user engagement rate by 11%.
  - Developed an automatic machine learning pipeline that retrains models with data source updates, launches A/B testing experiments, and deploys new models if a specified improvement is observed, saving engineering hours across the team.
  - Worked on action prediction service which predicts user intention at a particular time and location by aggregating various signals from multiple models input which is used in Siri Suggestions and Siri Shortcuts.

### Airbnb, San Francisco, CA

- Software Engineer Jan 2019 – Aug 2020
  - Fighting financial fraud with machine learning models and rule-based engine.**
  - Tech Stack: Python, Java, Scala, Sklearn Kit, Airflow, Hive, Presto, Spark**
  - Developed a machine learning model to tackle the fake review problem at Airbnb with Sklearn and Pandas, cutting the volume of fake reviews to 1% of the peak volume and preventing 2 million losses.
  - Trained a machine learning model to produce a comprehensive risk score with Sklearn and Pandas, evaluating the overall risk of users on Airbnb, especially on Airbnb hosts, similar to Alipay's Zhima/Seasame score.
  - Collaborated with team to launch the delayed payout policy which delays the payout of risky Airbnb hosts, prevented 60% of fraudulent payouts being made and hence in an estimated 10 million in annual savings.
  - Built a java microservice that provides downstream services with consolidated risk signals using Redis, Hive, and Kafka.
  - Designed and Implemented a scoring java service that produces risk scores of certain events and scenarios supporting multiple downstream consumers using Redis, Hive, and Kafka.

### Lino Network, Cupertino, CA

- Founding Engineer Mar 2018 – Oct 2018
  - Building a decentralized video and live streaming platform – Dlive.**
  - Tech Stack: Python, Golang, Javascript, VueJS, Splunk, ELK, AWS(S3, Kinesis, Lambda, Route53, etc)**
  - Built Dlive's front-end website, video transcoding/storage/distribution service, and metrics data pipeline from scratch.
  - Secured \$20 million in funding through a private token sale led by ZhenFund and exited selling Dlive to BitTorrent.

## EDUCATION

### Carleton College, Northfield, Minnesota

- B.A. in Computer Science Graduated Jun 2018

## TECHNICAL SKILLS

- Programming Languages: Proficiency in Python, Java, Golang, Javascript, Scala, Objective-C
- Experienced AWS Services: Athena, S3, SQS, EC2, Lambda, API Gateway, Auto Scaling Group, Cloudfront, Route 53, CodePipeline, CodeBuild, CodeDeploy, Kinesis
- Machine Learning & Data Engineering: Scikit Learn, OpenCV, Pytorch, Matplotlib, Scipy, Numpy, Pandas, ELK, Apache Iceberg, Apache Spark, Apache Kafka, Airflow