Xingfan Xia

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EDUCATION

Carleton College, Northfield, Minnesota

- B.A. in Computer Science   Mar 2017
  - Related Course Works: Human-centered Computing, Operating Systems, Database Systems, Computer Graphics, Software Design, Programming Languages, Computability and Complexity, Coding Theory, Computer Sound and Music

WORK EXPERIENCE

Airbnb, San Francisco, CA

- Software Engineer   Jan 2019 – Present
  - Develop various defense logic to protect Airbnb users from fraudsters.
  - Build data foundation infrastructure to provide signals to detect potential fraud.

Lino Network, Cupertino, CA

- Software Engineer   Mar 2018 – Oct 2018

(Platform & Infrastructure)
  - Performed a major upgrade of Dlive, largest live streaming DApp on Blockchain; implemented a discord-like feature with VueJS, GraphQL, and Web Socket. Dramatically increased user retention rate.
  - Architected and developed a video platform that includes ingest, transcoding, and distribution of video files in Golang with AWS S3, SQS, and Cloudfront from scratch. Serving terabytes of video content in different qualities globally.
  - Built GPU-accelerated transcoding cluster for the video platform in Golang with FFMPEG and Nvidia CUDA. Increased transcoding efficiency by 15 times and expanded the supported video formats and codecs.
  - Improved users' experience uploading video by deploying video ingest service in 7 major regions of the world to reduce uploading wait time and the possibility of transfer errors with AWS API Gateway and AWS Lambda.
  - Secured content on the Dlive platform by implementing signed-cookie protection on AWS Clooudfront in Python to defend third-party malicious attack.
  - Designed and implemented data pipeline at Lino from scratch to monitor user behaviors, user QoE metrics, and streaming service robustness with AWS Kinesis, AWS Lambda, ELK Stack, and Splunk. Performed real-time analytics of gigabytes of logs from users and aggregated into comprehensive reports and dashboards that provides both technical and business insides.
  - Researched popular live streaming protocols including HLS, MPEG-DASH, Web-RTC and prototyped their implementations.

Vevo LLC, San Francisco, CA

- Software Engineer Intern   Jun 2017 – Sep 2017

(Data & Machine Learning Team)
  - Designed and implemented a Q&A chatbot using AWS Lambda, Python and AWS Lex. Deployed the chatbot on Facebook Messenger and Slack.
  - Built a multi-seed recommendation engine. Deployed as an API service, a Web App, and a tvOS App as POC demos.
  - Analyzed visuals of music videos, generated playlists based on similar visual elements grouped by LDA topic modeling.
  - Deployed a Jupyterhub system on an AWS P2 instance to facilitate team's research and exploratory works related to machine learning and deep learning. Typically made model training 6 times faster.

PROJECTS

Tree Discovery

- Lead   Oct 2017 – May 2018
  - Implemented the Random Forest Algorithm from scratch in Python with a team of 6.
  - Processed the raw and messy ENRON email dataset into a usable training set and test set with TF-IDF, DB-SCAN, and LSA topic aggregation.
  - Tested the performance of the implementation against the ENRON dataset, our F1 Score is comparable to the results presented at TREC Conference 2011.
  - Designed and built a demo e-discovery product that utilizes the idea of semi-supervised learning, allow users to tag relevant documents as training set in each iteration of predictions to continuously improve the model's accuracy and recall.

TECHNICAL SKILLS

- Programming Languages: Proficiency in Golang, Python, Java, Javascript, C
- Frameworks: VueJS, Bulma, LAMP, GraphQL, Selenium, Webpack, NodeJS, PhantomJS, React, Django, ELK, Splunk
- Platforms & Tools: Ubuntu, Docker, FFMPEG, Nvidia CUDA, MongoDB, MySQL, Redis

- Proficient AWS Services: S3, SQS, EC2, Lambda, API Gateway, Auto Scaling Group, Cloudfront, Route 53, CodePipeline, CodeBuild, CodeDeploy, Elastic Beanstalk
- Machine Learning & Deep Learning: Scikit Learn, OpenGL, Theano, Matplotlib, Scipy, Numpy, Pandas, Keras, Jupyter