YEJIA LIU

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Education

MSc, Computing Science **September 2016 - May 2018**
Simon Fraser University, Burnaby, BC, Canada

B.E., Software Engineering **September 2012 - July 2016**
South China University of Technology, GuangZhou, P.R.China

Research Experience

Research Assistant **April 2020 - Present**
Simon Fraser University, Burnaby, BC, Canada
- Designed secure data communication framework for federated machine learning models
- Designed privacy guarantee protocol among engaged parties for federated machine learning models
- Developing the distributed system to support users to fix bugs of a federated machine learning model across companies through SQL queries by removing minimum number of (potentially problematic) training examples
- Actively taking part in the DataPrep project to develop a Python package aiming at helping data analysts collect and process data

Research Assistant **September 2016 - July 2018**
Simon Fraser University, Burnaby, BC, Canada
- Crawled/preprocessed/analyzed players predraft/draft performance data from various hockey league websites
- Designed and developed a new data-driven interpretable approach for assessing draft prospects in the National Hockey League (NHL) and National Basketball Association (NBA) based on model tree learning
- Applied our model tree ranking to highlight strong and weak points of players

Teaching Assistant **September 2016 - July 2018**
Simon Fraser University, Burnaby, BC, Canada
- Tutored classes CMPT 129 (Introduction to Programming), CMPT 475 (Software Engineering II)

Research Assistant Intern **June - September 2015**
Simon Fraser University, BC, Burnaby, Canada
- Analyzed and visualized players' features correlation with players' future performance data

Publications

- **Yejia Liu**, Oliver Schulte and Chao Li. Model Trees for Identifying Exceptional Players in the NHL and NBA Drafts. *The fifth Machine Learning and Data Mining for Sports Analytics Workshop at ECML-PKDD (MLSA, ECML-PKDD) 2018.*

- Anonymous Authors. Paper in submission: Related to data preparation. ACM SIGMOD 2021.

Work Experience

Software Engineer **August 2019 - April 2020**
TEG, Tencent, ShenZhen, GuangDong, China
- Designed and built data migration scheduling system to improve the automation and success rate of data migration among disks
- Built a regression model to predict the amount of memory storage used each month for auto scale out and scale in
- Designed and implemented offline backup query interfaces for our NoSQL database

Software Development Engineer **September 2018 - June 2019**

Amazon Web Services (AWS), Amazon, Vancouver, BC, Canada

- Implemented lazy loading mechanism to reduce excessive calls to EC2 DescribeLaunchTemplate API for Auto Scaling groups. This decreased Auto Scaling call volume to EC2 from 40,000 calls/min to 3,000 calls/min, largely relieved Auto Scaling issue of throttling by EC2.
- Built a termination policy which terminates instances based on launch template for an Auto Scaling group.`https://docs.aws.amazon.com/autoscaling/ec2/userguide/as-instance-termination.html`
- Built new feature "EC2 Auto Scaling Groups With Multiple Instance Types & Purchase Options" with teammates to enable customers use a combination of instance types together with a mix of on-demand/spot instances.
- Work with AWS Personal Health Dashboard team to integrate EC2 Auto Scaling with their monitoring service to notify customers about instances launch failures
- Enhanced RunInstances dry-run validation of launch template for Auto Scaling. This improvement helps our customers to migrate from launch configuration to launch template more easily.
- Enhanced the design of Creation Wizard of EC2 Auto Scaling service by refactoring original code
- Take service operational responsibilities, including software release/deployment, building monitoring tools and Oncall for customer/service tickets.

Software Development Engineer Intern **May 2017 - August 2017**

EC2 Auto Scaling, Amazon Web Services (AWS), Vancouver, BC, Canada

- Built Lifecycle Hook option inside create-auto-scaling-group EC2 Auto Scaling API to allow customer to use their lifecyle hooks when creating Auto Scaling groups.
- Added Lifecycle Hook feature in AWS EC2 console to enable customers to create/edit/view/delete lifecycle hooks.

Technical Skills

- Experienced in Java, Python, C++, Go, SQL, TensorFlow LaTeX
- Familiar with front-end languages such as VUE, React and JavaScript

Awards & Certificate

- Mitacs|Globalink Graduate Fellowship **September 2016**
- Simon Fraser University Graduate Fellowship **September 2016**
- **Chartered Financial Analyst (CFA) Level II Candidate**

Community Involvement

Graduate Coordinator **October 2016 - April 2017**

Woman in Computing Science(WiCS), Simon Fraser University

- Informing female graduate students of events in the Computing Science
- Helping to organize events like "CodeMaven"

Volunteer of Technovation Workshop **November 2016 - April 2017**

Woman in Computing Science(WiCS), Simon Fraser University

- supporting young girls as they use App Inventor, which is the program they will use to build their mobile apps