Yilei Cai

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Skills

Big Data	Spark, Flink, Kafka, Hive, Airflow, Oozie, Hadoop, Pig
Programming	Java, Python, Scala, Ruby, C++, SQL, Shell, JavaScript, C, MATLAB, SML

Education

Carnegie Mellon University — *Pittsburgh, PA*
M.S. IN COMPUTATIONAL BIOLOGY, SCHOOL OF COMPUTER SCIENCE — *Sep. 2013 - May 2015*
- Departmental Merit Fellowship (major GPA: 3.9/4.0)

Duke University — *Durham, NC*
M.S. IN NEUROBIOLOGY, SCHOOL OF MEDICINE — *Sep. 2011 - May 2013*
- Withdrawal from PhD Program

Hong Kong University of Science and Technology — *Hong Kong*
B.S. IN MOLECULAR BIOMEDICAL SCIENCES WITH MINOR IN MATHEMATICS, CHEMISTRY AND BIOLOGY — *Sep. 2007 - Jun. 2011*
- University Scholarship, Lee Hysan Foundation Exchange Scholarship, Dean's List, First Class Honors

Work Experience

AirBnB — *San Francisco, CA*
SOFTWARE ENGINEER, GROWTH AND TRAFFIC TEAM — *Dec. 2018 - present*
- Developing offline and real time components for customer intelligence platform (Flink, Spark, Hive, Airflow)
- Rewrote the visitor-user mapping pipeline (Spark, Scala)
- Worked on data pipelines including cost ingestion (Ruby on Rails) and bot detection (Airflow, Hive)

Yahoo! — *Sunnyvale, CA*
MACHINE LEARNING ENGINEER, BIG DATA MACHINE LEARNING TEAM — *Feb. 2018 - Nov. 2018*
- Implemented Spark based method to launch parameter server instances (Spark, Scala)
- Used TensorFlowOnSpark to generate word embeddings (word2vec), and optimize performance (Python)
- Made enhancements to parameter server based LDA (Scala)

SOFTWARE ENGINEER, GEMINI ADS TEAM — *Nov. 2016 - Feb. 2018*
- Built offline model training and feature engineering pipelines (Pig, Oozie, HDFS, Python, Java, Shell, Hive)
- Added features for online ads scoring service (C++)
- Developed an internal reporting tool for ads data visualization based on the open source web application, Superset (Python, SQL, JavaScript)

Third Wave Systems — *Minneapolis, MN*
APPLICATIONS DEVELOPER — *Jul. 2015 - Nov. 2016*
- Designed and implemented a new GUI de novo for a machining process simulating software
- Used C++ Open Cascade library for 3D geometry rendering and integrated it into GUI (java) using Java Native Interface (JNI)
- Added semi-automated report generation function (Java and C++)

Academic Projects

Carnegie Mellon University — *Sep. 2013 - May 2015*
- Classified newspaper articles using machine learning models (Python, MATLAB)
- Designed and implemented a distributed Map/Reduce framework (Java)
- Designed and implemented a *simple search engine* (Python)
- Designed and implemented an urban transit system simulator (Java)
- Designed and implemented the game Scrabble with GUI (Java)
- Designed and implemented a social network analysis framework and its plugins (Java)

Research Experience

Duke University and HKUST — *Sep. 2009 - Dec. 2012*
- Performed two-photon/confocal microscopy and biochemical experiments to study molecular neuronal plasticity