Qi Zhang

bl1008@gmail.com ••• (716) 238-1959 ••• linkedin.com/in/qz001 ••• github.com/qizhang-1

Experience

Insight Data Engineering New York, NY
Fellow Jan. 2018 – Present

- Designed an effective purchase policy limit model using connected component algorithm in GraphX to detect violator lists in a 10M daily transactions record
- Built end-to-end data pipeline and ETL processes for e-commerce transaction records using Spark SQL
- Designed streaming process via Kafka and Spark streaming for data ingestion and consumption
- Used Flask to create analytics dashboards and display violator lists

Institute of Computational Engineering Sciences Austin, TX
Software Engineer and Research Associate Mar. 2016 – Dec. 2017

- Designed and implemented multiple features for open-source Computational Fluid Dynamics tool (Stanford University Code 2) on parallel clusters (C/C++)
- Speeded 5+ times of simulation data (2.4TB) ETL process for machine learning studies (Python)
- Implemented various post-processing tools for turbulence data statistical analysis (Python, Java)

PSAAP2 Center, University of Illinois Urbana, IL
Research Associate May. 2014 – Feb. 2016

- Developed and implemented a parallel Navier-Stokes and its adjoint equations solver with an integration of Gradient Descent Methods with generalized minimal residual method (GMRES)
- Identified the performance bottlenecks for the solver and optimized the code via vectorization and better cache utilization with a 1.8 times speed up scaled up to 8192 cores
- Established a high-fidelity time-domain impedance prediction model via combination of non-linear partial differential equation and linear regression (4 journals with 180+ citations)

Independent Project

Statoil/C-CORE Iceberg Classifier Challengle (Kaggle Competition)

- Built a data pipeline and applied Convolution Neural Network in Tensorflow for iceberg detection
- Applied random image rotation, shifts and other various data augmentation techniques to improve prediction score

Education

University of Illinois at Urbana-Champaign Urbana, IL
Ph.D. in Aerospace Engineering (**Computational Science and Engineering**)

Fudan University Shanghai, China
B.S. in Theoretical and Applied Mechanics (Minor: **Computer Science**)

Skills

- **Programming Languages**: C/C++, Java, Python, Scala, Javascript, SQL, Fortran, MATLAB
- **Distributed Systems**: Hadoop, Spark, Kafka, Cassandra, S3, Neo4j, Redis, AWS
- **Data Science Tools**: Pandas, NumPy, SciPy, Scikit-learn, TensorFlow, Keras