Haopeng (Hoppe) Wang

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Summary of Skills

Technical Skills

- **Programming Language**: Python, SQL, Javascript, Java, HTML, C++, C, Matlab, R.
- **Big Data/ Data Science techniques**: Hadoop, Spark, Cassandra, Kubernetes, Pandas, Jupyter
- **Machine Leaning/ Deep Learning**:Tensorflow, Tensorlayer, Keras, Pytorch, Scikit-Learn.
- **Tools/ Framework**: AWS, Git, React (Native), Expo, Node.js, Django, Android Studio, RabbitMQ

Transferrable Skills

- **Active and quick learner** for knowledge and new techs: self-learned many techs/framework as well as online MOOCs and applied the knowledge learned to self-directed projects.
- **Good collaboration abilities** obtained from previous Co-op experience and working with project team members by solving conflicts and helping others in need.

Work Experience

- **Realtor.com** **Richmond, BC, Canada**
  Software Engineer, Data Aggregation Co-op *May 2019 - Dec 2019*
  - Worked collaboratively in an Agile/Scrum team to maintain our listing data pipeline and create real estate specific data transformation rule with Java and Javascript.
  - Responsible for resolving customer's and downstream's data-related issues, including data accuracy, data richness, and pipeline performance.
  - Helped our team migrate special datasources to the new data pipeline by writing python scripts to provide migration metrics and automation.
  - Linked MySQL database to Google Sheet using AWS Lambda and Google Sheet API to create a daily auto-generated report which is used to monitor the status of all datasources.

Selected Projects

- **Mobile Music App Development**
  Self-directed *Sept 2019 - Jan 2020*
  - Built a mobile application which allows users to extract YouTube audio to the cloud (AWS S3), and provided the functionalities to stream, download, play, and manage the audio within the application.
  - Powered by React Native, and can be built to run on both iOS and Android devices.
  - Deployed the back end service with AWS Lambda and API Gateway to go completely serverless with high scalability and simplicity.

- **Cryptocurrency Real-Time Prediction System** — **Simon Fraser University**
  Programming for Big Data II Course Project — *Apr 2019*
  - Developed a deep learning model (LSTM RNN) to predict Bitcoin price by integrating historical and social media data with news sentiment analysis.
  - Built a streaming system, which includes pipelines for data collection and feature extraction, model prediction, RabbitMQ result publishing, and Node.js Server-Sent Events (SSE), to send real-time price prediction to our web front end.
  - Our React web front end is capable updating charts itself with new incoming prediction as well as displaying the latest cryptocurrency market information and statistical analysis.

- **Low Resolution Dark Image Enhancement** — **Simon Fraser University**
  Machine Learning Course Project — *Dec 2018*
  - Based on the Learning-to-See-in-Dark model, and combined it with SRGAN (Super Resolution GAN) to achieve 4x super-resolution as well as denoising, deblurring, and white balance adjustment for low resolution low light image.
  - Used the dataset provided by the Learning-to-See-in-Dark model, and built our own training data preparation pipeline, which includes image resizing, cropping, and data augmentation.
  - Solved the limitation of original See-in-Dark model: which needs raw HD image data as input.

- **Rhythm Reconstruction Using RNN** — **Xi'an Jiaotong University**
  Graduation Project — *Jun 2018*
  - Built a 3-layer LSTM RNN to learn the rhythmic structure of modern music: reconstructing the pitches from existing music pieces to form new melodies, which can have a style similar to the original one or being totally different.
  - Based on Google Brain Magenta project, used Tensorflow to build and train the model.
  - Applied some techniques includes data augmentation, attention mechanism, and drop off to achieve better performance.

Education

- **Simon Fraser University** — **Burnaby, BC, Canada**
  MSc in Computer Science (Big Data) — *Sept 2018 - Present*
  GPA: 3.78/ 4.33

- **Xi'an Jiaotong University** — **Xi'an, China**
  Bachelor of Energy and Power Engineering — *Sept 2014 - Jun 2018*
  GPA: 84/ 100

MOOC Certificates

- **From Stanford Online:**
  - Algorithms: Design and Analysis, *Stanford University* — grade: 93%
- **From Coursera:**
  - Neural Networks and Deep Learning, *deeplearning.ai* — grade: 92%
  - Machine Learning, *Stanford University* — grade: 96%