CARL SHEN

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SKILLS

Languages – Java, JavaScript, C#, C++, C, Python, R, Matlab, SQL
Technologies – Apache Spark, Hadoop, Apache Storm, Redis, Microsoft Azure, Node.js, Weka Machine Learning

EXPERIENCE

Yahoo Sports
Daily Fantasy Backend Team – Software Engineering Intern

Sunnyvale, *CA*
Jan - Apr *2018*

- Backend API development using Java to build out features in the Yahoo Sports Daily Fantasy platform.

SAP
Big Data Tooling Team – Software Developer Intern

Waterloo, *ON*
May - Aug *2017*

- Full stack JavaScript/Node.js development of features for a customer facing Database Explorer web app.
- Built an advanced data preview interface for dynamically generating data charts, making use of the high-speed capabilities of SAP HANA's in memory databases. Resulted in a ~10% increase in in-(web)-app time per visit.

Communications Research Centre
Network Applications Group – Software Engineering Intern

Ottawa, *ON*
Sep - Dec *2016*

- Prototyping and development of data engineering applications using Java, Python, and C# for a city-wide radio spectrum usage monitoring testbed system (>10 GB of data generated per day).
- Created an automated batch data analysis pipeline leveraging Apache Spark (in Java) and Azure Data Factory (with a C# custom activity), reducing execution time from about 5 hours to 30 minutes.

EDUCATION

University of Waterloo
BASc Candidate – 3A Computer Engineering

Waterloo, *ON*
Expected Apr *2020*

- Cumulative Average: 93.42% | Overall GPA: 3.98/4 | 2B Class Rank: 1/164
- Awards – Engineering Faculty/Staff Upper Year Scholarship, Microsoft Tuition Scholarship, Richard & Elizabeth Madter Engineering Entrance Scholarship, President's Scholarship of Distinction & Research Award
- Undergraduate Research Assistantships – contributed to projects within research groups focusing on distributed computing systems, as well as on LDPC stochastic decoding algorithms.

PROJECTS

Full list and details available at linkedin/com/in/shencarl or cshen98.github.io/#projects

Hockey Analytics with Spark
2018

- Leveraging Apache Spark (including Spark Streaming and Spark MLlib) for a variety of hockey related projects using data scraped from NHL APIs and the ESPN fantasy site, including a Redzone-like streaming analytics algorithm, and a machine learning projected team points model.

Spatial Data Visualization Tool
2017

- Created an interactive data visualization tool for dynamically filtering and aggregating spatial data on a map based on zoom level and map bounds by leveraging a Geohash spatial index within an Apache Druid data store.

Parallelized User Behavior Prediction Model
2016

- Ported components of a novel user behavior prediction model to a MapReduce & Hadoop framework to improve speed of the model using parallelized cluster computing.
- Secondary author of publication in Cluster Computing 2017 Vol 20 Iss 2 (DOI 10.1007/s10586-017-0749-z)

Smart Bed Monitoring System
2015

- Built a system to recognize bed-related situations and monitor sleep patterns using a decision tree generated by applying a Weka machine learning algorithm on an experimentally gathered training data set.
- Received awards at the 2015 national Canada Wide Science Fair.