Jae Hoon (Antonio) Kim

Bachelor of Computer Science, Artificial Intelligence Specialization
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TECHNICAL SKILLS

Languages: Python, C++, C, SQL, Java, R, JavaScript, HTML, Bash

Tools Used: PyTorch, TensorFlow, Spark, Redshift, Pandas, Scikit-learn, Numba, Dask, H2O, Node.JS, Java EE, Grails

WORK EXPERIENCE

Machine Learning Engineer · Yelp, Inc. · January 2020 – April 2020
- Greatly expanded the applied machine learning teams' understanding of **uplift modeling** by designing and productionizing a revenue optimizing uplift model that helps Yelp better serve its (business owner) customers and better target potential advertisers.
- Significantly improved team's uplift modeling capabilities by creating a powerful, versatile internal modeling library.

Data Scientist · Kik Interactive · May 2019 – August 2019
- Spearheaded company's antispam data science effort and made significant improvements on entire data science stack
  - Built new, highly effective **gradient boosted models** that drove spam numbers down immensely.
- Optimized many model pipelines with high performing **SQL** queries and distributed **Spark** workflows

Statistical Data Scientist · Capital One · September 2018 – December 2018
- Improved runtime of internal model scoring pipelines and tools by leveraging **Spark**'s powerful multithreading capabilities.
- Built a highly scalable feature engineering pipeline using **Spark** to engineer thousands of features for large datasets which were used to train **H2O GBM** risk models which added thousands of dollars in business value.
- Provided company with optimal use case analyses and performance benchmarks for **Pandas**, **Dask**, and **Spark**.

Developer · The Co-operators – Innovations Lab · January 2018 – April 2018
- Eliminated 750 hours yearly of repetitive human labour by implementing software robot process automation solutions (**RPA**).
  - Significantly increased efficiency of new and existing workflows by incorporating efficient **SQL** scripts.

Enterprise Software Developer · Canadian Blood Services · May 2017 – August 2017
- Added a location and patient blood querying system to the existing **Java EE** and **Grails** web systems.

RELEVANT PROJECTS

WATonomous – Autonomous Driving Student Design Team - Perception Team Technical Lead
- Currently leading the team's **roadline detection** and **object detection** efforts.
  - Engineering the perfect balance between speed and accuracy using state of the art **real-time semantic segmentation** models
  - Developing reliable and accurate **object detection** models to detect pedestrians, cyclists, traffic lights, etc.

C++ Machine Learning Library (CML)
- A fully templated, fast and easy to use **deep learning library** specifically designed for use in **C++**
  - Features **dynamic graphs** and fast **automatic gradient** calculations that make training models a breeze

There's Waldo!
- Designed **a deep convolutional neural network** specifically aimed at finding Waldo in *Where's Waldo* maps.
  - Extremely fast, lightweight, **single-shot object detection** design inspired by the **YOLOv3** architecture.

Ultimate Tic Tac Toe Zero
- Designed a **Deep-Q Reinforcement Learning** Model that can play the game Ultimate Tic Tac Toe
  - Surpasses human-level play and outperforms traditional Monte Carlo Tree Search methods.
  - Utilized **PyTorch** library to build and train the dynamic neural networks used to approximate the Q-function.

CalcPlusPlus
- Created a very fast and versatile Math engine using **C++** that parses mathematical input and produces the evaluation.

EDUCATION

Bachelor of Computer Science, Artificial Intelligence Specialization · University of Waterloo, Ontario, Canada

OTHER EXPERIENCE
- **Won** the Hack the Valley Machine Learning Challenge (2018)
- **Won** best use of Interac e-Transfer API at UofT Hacks V (2018)

ADDITIONAL QUALIFICATIONS
- Language, Korean – Working Knowledge

INTERESTS
- Artificial Intelligence, Deep Learning, Computer Vision