




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

- Designed and productionized a revenue optimizing **uplift model** that helps Yelp better serve its (business owner) customers and better target potential advertisers.
- Compiled **uplift modeling** knowledge and tooling into 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 **XGBoost antispam models** that drove spam numbers down ~10%.
- Optimized dozens of model pipelines with high performing **SQL** queries and distributed **Spark** workflows.



Statistical Data Scientist – Capital One · September 2018 – December 2018

- Leveraged **Spark**'s powerful multiprocessing capabilities to optimize internal model scoring pipelines and tools.
- Built a highly scalable feature engineering pipeline using **Spark** to engineer thousands of features for large datasets.
 - 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 using software robot process automation solutions (**RPA**).
 - Increased efficiency of new and existing workflows tenfold by incorporating efficient **SQL** queries.



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 state of the art **real-time semantic segmentation** models, balancing accuracy and speed.
 - 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