Jae Hoon (Antonio) Kim

Computer Science 2B

jae.h.kim@uwaterloo.ca   (647) 964-5748   antoniok9130

antoniok9130

EDUCATION

Bachelor of Computer Science · University of Waterloo, Ontario   Fall 2016 – Present · Expected Graduation: April 2021

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, C++, C, SQL, HTML, CSS, VB.NET, Bash

Tools Used: TensorFlow, Keras, Node.JS, ml.js, Git, Firebase, Google App Engine, DialogFlow, Spring Boot, IBM Watson, UiPath, Java EE, Oracle DB, Tomcat Server

WORK EXPERIENCE

Developer – Innovations Team · The Co-operators · Winter 2018
- Implemented software robot process automation solutions (**RPA**) using **UiPath** and **VB.NET** to automate key business workflows.
  - Eliminated roughly 500 hours yearly of repetitive and unnecessary wasted human labour.
- Helped build industry leading AI technology and chatbots using **IBM Watson** and **Node.JS** to integrate into business processes.
  - Worked on Speech-to-Text and Language translation aspects of the chatbot.
- Worked in a team environment and within a strict **Agile** framework.

Enterprise Software Developer · Canadian Blood Services · Summer 2017
- Monitored national enterprise systems and **database performance** using **Oracle DB**.
- Utilized **Java EE** and **Grails** to develop new web based solutions in collaboration with IT business systems analysts and Custom Solutions' national enterprise clients.

RELEVANT PROJECTS

Interac-tions with Google Assistant   Won best use of Interac e-Transfer API at UofT Hacks V
- An action on Google that allows you to request payments using the Interac API through Google Assistant.
- Used **Node.JS** to build a **Firebase** webhook which interacted with intents and entities built in **DialogFlow.**
- Utilized a **Firebase** real-time database to log transaction requests and perform backend data analytics.

Encryption Library
- Wrote a **Java** library that features a custom **symmetric cipher** and **cryptographic hash function** that I designed
  - Design inspired by RSA but uniquely utilizes a private keystore and byte-based operations to encrypt/decrypt/hash.
- Deployed a Rest API on **Google Cloud App Engine** made using **Spring Boot** to make my algorithm available through API requests.
- Developed a Password Manager application with an intuitive GUI using **Java** Swing that uses the library's encryption algorithm to securely store usernames, passwords and personal information.

Atari Reinforcement Learning Model   Hack the North 2017
- Designed and fully implemented a Deep Reinforcement Learning model in **Python** using **TensorFlow**.
  - The model takes only the raw pixel data of the screen and uses a combination of **Q-learning** and a **Convolutional Neural Network** to learn the game mechanics of any Atari game.

There's Waldo!
- Trained a **Convolutional Neural Network (CNN)** (designed using **TensorFlow**) to find Waldo in a Where's Waldo map.
  - The model feeds the output of the CNN through a probability function to determine how likely it is that it has found Waldo.
  - Used **TensorFlow**'s built-in **GPU** functionality to get the process to run in 7-8 seconds.

OTHER EXPERIENCE
- **Won** the Hack the Valley Challenge 2018 by Zero Gravity Labs
- Attended **Hack the Valley 2018**, and contributed to the development of WriteOn

ADDITIONAL CERTIFICATIONS/QUALIFICATIONS
- Certificate, First Aid with CPR-C (Lifesaving Society, 2016)
- Language, Korean – Working Knowledge