Jae Hoon (Antonio) Kim

Computer Science 2B
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EDUCATION

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

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, C++, C, Bash, SQL, HTML, CSS, VB.NET *In decreasing order of familiarity

Tools Used: TensorFlow, Node.JS, Firebase, DialogFlow, Git, Subversion, UiPath, IBM Cloud, 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 Cloud** and **Node.JS** to integrate into business processes.
  - Worked on Speech-to-Text and Language translation aspects of the chatbot.
- Work 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**.
- Analyzed system problems and debugged application and database errors.
- 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.
- 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.

There's Waldo!

- Trained a **Convolutional Neural Network (CNN)** to find Waldo in a Where's Waldo map.
  - The trained model, which was designed using **TensorFlow**, performs a convolution on the input map and feeds the output of the CNN through a probability function to determine how likely it is that it is looking at Waldo.
  - Used **TensorFlow**'s built-in **GPU** functionality to get the process to run in 7-8 seconds.

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 from the screen and uses a combination of **Q-learning** and a **Convolutional Neural Network** to learn the game mechanics of any Atari game.
- Optimized the model using **TensorFlow**'s Adam Delta Optimizer.
  - The model was able to play Space Invaders 5-6 times better than random play.

ADDITIONAL CERTIFICATIONS/QUALIFICATIONS

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