Brandon Lee

j474lee@uwaterloo.ca • (204) 698 – 1771 • ljj7975.github.io

Education

University of Waterloo

Master of Mathematics (in Computer Science - Thesis) — Advisor: Prof. Jimmy Lin *Sep. 2018 ~ Dec. 2019*

- Natural language processing, speech recognition, information retrieval
- Thesis: In-Browser Personalization for Ubiquitous Keyword Spotting

Bachelor of Computer Science *Sep. 2013 ~ Aug. 2018*

- Completed co-operative program and graduated with distinction
- Recipient of President's Scholarship and Faculty of Mathematics Scholarship

Experience

RoboEye.ai Toronto, ON

AI Research Lead *Oct. 2021 ~ Present*

- Leading research projects to improve industrial automation solutions based on 3D object detection

AI Researcher *Mar. 2020 ~ Oct. 2021*

- Combined Mask R-CNN and PVN3D to develop custom 3D object detection algorithms
- Built fully automated model training system using PyTorch, NVIDIA Isaac Sim, Django, AWS and Huawei Cloud
- Developed a robotics solution for bin-picking tasks in C++ and Python (ROS, Qt5, ZeroMQ, OpenCV, PCL)

Mozilla Research Mountain View, CA

Research Collaborator *Mar. 2020 ~ Oct. 2020*

- Developed Howl, the first fully productionized, open-source wake word detection toolkit with web browser support
- Howl enabled Firefox Voice to provide a completely hands-free experience to over 8,000 users

Samsung Research America Mountain View, CA

Research Scientist – Visual Display Intelligence Lab *Apr. 2019 ~ Jan. 2020*

- Applied co-clustering to user behavior analysis; implemented user-centric TV program recommendation
- Explored deep learning for co-clustering and invented a new technique that exploits generative modeling

Facebook Menlo Park, CA

Software Engineer – Dynamic Ads Infrastructure *Jan. 2018 ~ Apr. 2018*

- Implemented a product-level advertisements system — applied KNN algorithm to define the target audience
- Redesigned the system to consider a wider range of products at an earlier stage; increased the click-through rate

Uber Palo Alto, CA

Software Engineer – Complex Data Processing / Spark Team *May. 2017 ~ Aug. 2017*

- Integrated TensorFlowOnSpark on Uber infrastructure and evaluated its stability and efficiency
- Transformed an MLlib pipeline into a set of Spark job with TensorFlow; reduced training time from 33 to 3 hours

Publications

- CI-GAN: Co-Clustering by Information Maximizing Generative Adversarial Networks ICME 2021
  ***Jaejun Lee**, Hyun Chul Lee and Tomasz Palczewski*
- Howl: A Deployed, Open-Source Wake Word Detection System EMNLP 2020
  ***Jaejun Lee**, Raphael Tang, Afsaneh Razi, Julia Cambre, Ian Bicking, Jofish Kaye and Jimmy Lin*
- Honkling: In-Browser Personalization for Ubiquitous Keyword Spotting EMNLP 2019
  ***Jaejun Lee**, Raphael Tang and Jimmy Lin*
- Universal Voice-Enabled User Interfaces using JavaScript IUI 2019
  ***Jaejun Lee**, Raphael Tang and Jimmy Lin*