Brandon Lee

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Experience

Lead Research Scientist – *Roboeye.ai*   *Mar. 2020 ~ Present*

  - Designed AI-based robotics solutions that automates repetitive and dangerous manufacturing processes
  - Coordinated R&D team to research and develop data-driven computer vision and robotics solutions
      - 3D object detection pipeline based on Mask R-CNN, FCGF, PVN3D, and ICP
      - Fully automated online model training system: PyTorch, NVIDIA Isaac Sim, OpenCV, and AWS
      - C++ robotics solution for bin-picking tasks: ROS, Qt5, ZeroMQ, Protobuf, OpenCV, and PCL
  - Continuously improved 6D pose estimation performance by integrating emerging techniques
  - Defined scope, cost, timelines of projects and monitor progress using agile methodology
  - Set up internal protocols for deploying systems to Chinese factories in a time-effective manner

Research Collaborator – *Mozilla Research*   *Mar. 2020 ~ Oct. 2020*

  - Developed Howl, the first fully productionized wake word detection toolkit with web browser support
  - Integrated Howl with Firefox Voice providing a completely hands-free experience to Firefox users

Research Scientist – *Samsung Research America*   *Apr. 2019 ~ Mar. 2020*

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

Software Engineer – *Meta*   *Jan. 2018 ~ Apr. 2018*

  - Implemented a product-level advertisements system using KNN algorithm
  - Increased click-through rate by improving the quality of both product and user embeddings

Patents / Publications

Production-Ready Applied Deep Learning   *Packt Publishing 2022*

Co-Informatic Generative Adversarial Networks for Efficient Data Co-Clustering   *Patent 2021*

CI-GAN: Co-Clustering by Information Maximizing Generative Adversarial Networks   *ICME 2021*

Howl: A Deployed, Open-Source Wake Word Detection System   *EMNLP 2020*

DeeBERT: Dynamic Early Exiting for Accelerating BERT Inference   *ACL 2020*

Honkling: In-Browser Personalization for Ubiquitous Keyword Spotting   *EMNLP 2019*

Education

Master of Mathematics *(in Computer Science) – Advisor : Prof. Jimmy Lin*   *University of Waterloo*

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

Bachelor of Computer Science   *University of Waterloo*

  - Completed co-operative program and graduated with distinction