Xianda (Bryce) Xu

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Education

Carnegie Mellon University | School of Computer Science — **Pittsburgh, PA**
Master of Science in Artificial Intelligence and Innovation — *May 2023*

University of Toronto — **Toronto, Canada**
Master of Engineering in Computer Engineering (2 semesters), GPA: 4.0/4.0 — *Jan. 2021 - Aug. 2021*

University of Electronic Science and Technology of China — **Chengdu, China**
Bachelor of Engineering in Computer Science, GPA: 3.99/4.0 — *May 2020*

Skills

Programming Languages: Python, Java, SQL, C/C++, Objective-C, HTML, JavaScript, Shell

Frameworks: PyTorch, Tensorflow, Scikit-Learn, AWS, Django, Flask

Work Experience

Ericsson — **Oct. 2020 – May 2021**
Machine Learning Engineer Intern — *Nanjing, China*

- Collaborated with a team of 5 to develop a smart trouble-shooting system that could offer repair recommendations for the radio products with an accuracy of **75%** and was estimated to save over **$10 million** per year for the company.
- Trained a **YOLO-v4** model using **Tensorflow** to detect missing components or defects in the PCBs and created an **AdaBoost** framework to learn from global repairing data.
- Built an interactive website based on **Django** that facilitated receiving feedback from onsite operators to continuously revise the system; received group recognition for its interface design.

Koala Uran — **Jan. 2020 – May 2020**
Research Assistant Intern — *Chengdu, China*

- Introduced a semantic-aligned attention network that could rapidly recognize objects (**18ms** in average) with limited training data by aligning significant local visual information with semantic knowledge, achieving an accuracy of **70.68%** for 5-way 5-shot image classification on miniImageNet.
- Extended the approach to zero-shot classification and obtained an accuracy of **88.6%** on SUN.

Mitacs Globalink — **May 2019 – Sep. 2019**
Research Assistant Intern — *Montreal, Canada*

- Studied binarized neural networks without pooling or fixed filter size by combining techniques of multiple resolutions and differentiable architecture search, improving more than **3%** on CIFAR-10 compared with manual architecture design.
- Devised a computing kernel for network binarization using **C++** and **CUDA** that supported fast Xnor-Bitcount operations and could be wrapped to be deployed on PyTorch; accelerated inference of the binarized model by about **3 times** on GPU and about **4.5 times** on CPU.

Selected Projects

Face Mask Detection Website | *University of Toronto* — **Spring 2021**

- Developed a face mask detector leveraging a **YOLO-v4** model trained on AIZOO to check the number of people wearing a mask in the photograph with an accuracy of **95%** in validation.
- Completed an interactive website based on **Flask** that supported online face mask detection; deployed the website on **AWS EC2** with data stored in **AWS S3**.

Fundamental Machine Learning Applications | *University of Toronto* — **Spring 2021**

- Accomplished a **Multivariate Gaussian** model in anomaly detection of fraudulent transactions.
- Constructed a **Linear Regression** model with batch gradient descent and weight decay in aircraft aileron control.
- Built a recommender system from a large movie dataset by applying **SVD** and consine-based similarity analysis.

Knoface: Smart Controller | *University of Electronic Science and Technology of China* — **Spring 2018**

- Led a team of 4 to devise a smart controller that helped people control their favorite functions throughout their homes; won Excellent Award in National Innovation Competition for college students.
- Designed a user-interactive iOS application utilizing **Objective-C** and configured communication between the BLE device and the software in the Peripheral & Central modes.