Xianda Xu

(+86)15335218618 xiandax@andrew.cmu.edu www.xiandaxu.info

Education

Carnegie Mellon University **Sep. 2021 – Present**
Master of Science in Artificial Intelligence and Innovation *Pittsburgh, USA*

University of Toronto **Jan. 2021 – Aug. 2021**
Master of Engineering in Computer Engineering (quitted), GPA: 4.0/4.0 *Toronto, Canada*

University of Wisconsin-Madison **Sep. 2018 – Dec. 2018**
Exchange Study Program, GPA: 4.0/4.0 *Madison, USA*

University of Electronic Science and Technology of China **Sep. 2016 – May. 2020**
Bachelor of Engineering in Computer Science, GPA: 3.99/4.0 *Chengdu, China*

Skills

Languages: Python, Java, C/C++, Object-C, HTML, JavaScript, Shell

Machine Learning: PyTorch, Tensorflow, Keras, Numpy, Pandas

Software Development: DJango, Flask, AWS, MySQL, PostgreSQL, Hadoop, Bootstrap, JQuery, Linux

Working Experience

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

- Developed a smart trouble-shooting system (major participation) with an intergration of tools to offer repair recommendations for the new-generation communication radios that reached an accuracy of 75% and was estimated to save over $1 million per month for the company.
- Trained YOLO-v4 model to visually detect any missing components or defects in the printed circuit boards.
- Utilized AdaBoost and Random Forest to learn multi-dimensional knowledge from global repairing data consisting of features including failed time, failed value, circuit chain, etc.
- Organized to build an interactive internal website using Django that demonstrates performance to the managers and receives feedbacks from the onsite operators in order to improve the system continuously.

Koala Uran **Jan. 2020 – May. 2020**
Machine Learning Engineer Intern *Chengdu, China*

- Developed a semantic-aligned attention network (major participation) that rapidly recognizes objects with limited training data (few-shot tasks). It can be applied in real-time applications like autonomous driving.
- Introduced an attention mechanism for few-shot image classification by aligning significant local visual information with semantic knowledge to refine feature embedding and extended the network to the zero-shot scenario.
- Proved effectiveness of the network in few-shot and zero-shot classification tasks on datasets like miniImageNet (53.18% for 5-way 1-shot and 70.68% for 5-way 5-shot) with 18ms inference time.

Ecole de Technologie Superieure **May. 2019 – Sep. 2019**
MITACS Globalink Research 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.
- Developed an open-source computing kernel for network binarization (major participation) using C++ and CUDA that supports fast Xnor-Bitcount operations and could be wrapped to be used on PyTorch. It 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 | *Tensorflow, Flask, MySQL, AWS* **Apr. 2021**

- Developed a face mask detector using YOLO-v4 model trained on the AIZOO dataset to check the number of people wearing a mask with an accuracy of 95% in validation.
- Designed a face mask detection website using Flask framework where people can upload images and use the detector online. It is deployed on Amazon EC2 and monitored by CloudWatch.

Cartoon Blog | *Flask, OpenCV, AWS* **Mar. 2021**

- Implemented a cartoonizer that can cartoonize a simple image into a cartoon image by using K-means algorithm to cluster the histogram.
- Designed a social media using Flask framework as backend and Bootstrap framework as frontend where people can post cartoon blogs and interact with each other. It is deployed on Amazon Lambda with Zappa.
- Utilized Amazon DynomaDB to store user information and Amazon S3 to store images.
- Created a model to predict the long-term AWS deployment costs.

Computer System Implementation | *C, Computer System* **Aug. 2020**

- Implemented a cache simulator following LRU replacement policy and write-back & write-allocate policy.
- Designed a dynamic memory allocator and improved its performance with segregated free list and better fit algorithm.
- Finished a tiny linux shell with job control that supports I/O redirection and signal handling.
- Completed a proxy simulator that supports web caching and handling of multiple concurrent requests.

Knoface: Smart Controller | *Object-C, Bluetooth, Circuit Design* **Jun. 2018**

- Organized to devise a smart controller that helps people control their favorite functions at home through the surfaces around. It won the Excellent Award in National Innovation Competition for college students.
- Designed the user-interactive iOS application using Object-C on the Xcode platform.
- Configured communication between the BLE device and the software using the Peripheral & Central mode of the CoreBluetooth framework.

Leadership & Extracurricular

Ufrate **Jul. 2017 – Aug. 2017**

Business Intern *San Jose, USA*

- Mainly participated in the startup project of exhibition badges to facilitate business research and rewarded Excellent Student Intern for my contribution.
- Took leadership and entrepreneurship courses at UC-Berkeley.

College Soccer Team **Mar. 2018 – May. 2020**

Captain *Chengdu, China*

- Led the team to win the 3rd place in the university soccer league.

Amateur Pianist

- Obtained the Amateur Top Level Certificate of Piano in Shanghai Conservatory of Music.