

Bicheng Xu

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EDUCATION

University of British Columbia (UBC)

Vancouver, Canada

Master of Science in Computer Science

Present

- Supervisor: Prof. Leonid Sigal
- Grade: 95/100
- Awards: 2018-2019, 2017-2018 International Tuition Award

Simon Fraser University (SFU)

Burnaby, Canada

Bachelor of Science in Applied Sciences (with Distinction)

2017

- Major: Computing Science (Dual Degree Program with ZJU)
- Minor: Mathematics
- GPA: 3.97/4.33
- Awards: 2016 Fall Undergraduate Open Scholarship; 2016 Summer VP Research - Undergraduate Student Research Award - Science; 2016 Spring Undergraduate Open Scholarship; 2014 Fall SFU Zu Ddp Entrance Awards

Zhejiang University (ZJU)

Hangzhou, China

Bachelor of Engineering

2017

- Major: Computer Science and Technology (Dual Degree Program with SFU)
- GPA: 3.73/4.00
- Awards: 2015 Second-Class Volunteer Award

PUBLICATIONS

Watch, Listen and Tell: Multi-modal Weakly Supervised Dense Event Captioning

- T. Rahman, **B. Xu**, L. Sigal
- *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2019

Time Perception Machine: Temporal Point Processes for the When, Where and What of Activity Prediction

- Y. Zhong, **B. Xu**, G.-T. Zhou, L. Bornn, G. Mori
- *arXiv preprint arXiv:1808.04063*, 2018

WiLocator: WiFi-sensing Based Real-time Bus Tracking and Arrival Time Prediction in Urban Environments

- W. Liu, J. Liu, H. Jiang, **B. Xu**, H. Lin, G. Jiang, and J. Xing
- *IEEE International Conference on Distributed Computing Systems (ICDCS)*, 2016

RESEARCH EXPERIENCES

Computer Vision Lab

UBC

Research Assistant

Present

- Explored image captioning in a semi-supervised setting
- Employed the idea of self-reconstruction and cycle-reconstruction to utilize the unlabelled images and sentences

Vision and Media Lab

SFU

Research Assistant

2017

- Carried out research on group activity recognition in videos
- Combined VGG net, recurrent neural network, and connectionist temporal classification (CTC) to recognize a sequence of activities performed by a group of people in a video through supervised learning

Computational Vision Lab

SFU

Part-time Research Assistant

2016

- Used Caffe framework to explore the color prediction problem
- Given the information of two lights and the color of one pixel under one light, predicted the color of the same pixel under the other light

Network Modelling Lab

SFU

Part-time Research Assistant

2015

- Researched on bus tracking and arrival time prediction in urban environments based on Wi-Fi sensing
- Explored the problem about indoor localization using cellphone's Wi-Fi detection and sensors of light, magnetic field and acceleration
- Programmed on Android platform

WORK EXPERIENCES

Ericsson Canada Inc.

Burnaby, Canada

Software Developer Coop - IP Operating System Team

2015

- Implemented packets' incoming rate check feature for line cards according to different router platforms using C programming language
- Designed and implemented test cases for packets' incoming and outgoing rate check functions for line cards

COURSE-RELATED PROJECTS

Lyric Generation with Style

2019

Main Contributor

- Built a GAN-like neural network model to generate lyric given a style and a topic
- Proposed a novel hierarchical structure for both lyric generation and encoding
- Presented two different evaluation methods to quantitatively measure the authenticity of the generated lyric

Semi-supervised Image Captioning via Reconstruction

2018

Project Leader

- Proposed an end-to-end model that can generate image captions in a semi-supervised way
- Adopted the idea of reconstruction to utilize images without paired captions

Handwritten Chinese Character Generation via Neural Generative Models

2018

Major Contributor

- Exploited generative adversarial networks (GAN), variational auto-encoders (VAE), and their combinations to generate handwritten Chinese characters conditioned on their GBK encodings
- Used PyTorch library to build the neural network models

Evaluating Visual Perception with Bouncing Motion

2017

Main Investigator

- Designed a perceptual experiment and developed a novel interactive interface that supports to investigate human perception to bouncing motions
- Validated the experiment design and the interface in piloting studies, providing insights to the theory of perception and physical simulation

Distributed File System with Transactional Semantics

2016

Software Designer and Developer

- Implemented a distributed file system with transactional semantics following the properties of Atomicity, Consistency, Isolation, and Durability using Java
- Handled omission, byzantine and failstop failures on the client and failstop failures on the server