LYNDON CHAN

☎ 647-330-1294 (mobile) | ✉ lyndon.chan@mail.utoronto.ca
lyndonchan.github.io | github.com/lyndonchan

Education

M.A.Sc., Electrical Engineering (Communications Group) 2017-present
University of Toronto Toronto, Ontario, CANADA

- Advisors: Drs. Konstantinos Plataniotis & Parham Aarabi
- Thesis Topic: *Automated Tissue-Type Classification as an Aid for Gastrointestinal Histopathological Diagnosis*

B.A.Sc., Electrical Engineering (GPA 3.64 / 4.0, 17th of 129) 2012-2017
University of Toronto Toronto, Ontario, CANADA

- Focus Areas: "Control, Communications & Signal Processing", "Analog & Digital Electronics", "Software"
- Capstone Project: *DARI: Depth-variable Augmented Reality Interface*

Interests

- Research Interests: Computer Vision, Computer-aided Diagnosis (CADx), Intelligence Amplification (IA), Abnormality Detection, Weakly-Supervised Semantic Segmentation (WSSS)
- Other Interests: Teaching, Blogging, Podcasting, Music, Cooking, Coding useful tools, Reading (history, philosophy), Translation, Hiking, Running, Swimming

Skills

- **Programming Languages (most to least proficient):** Python (Keras, TensorFlow, Caffe), MATLAB, C/C++, Java, Ruby, R
- **Software:** LaTeX, Windows Shell, Wiki Markup, Jupyter Notebook (in progress)
- **Languages:** English (native), Cantonese (fluent), Mandarin (conversational)

Research

Master's Student Research Assistant Sep. 2017-present
University of Toronto (Multimedia Lab) Toronto, Ontario, CANADA
Supervisors: Drs. Konstantinos Plataniotis & Parham Aarabi

- Currently developing weakly-supervised semantic segmentation for histological tissue type in digital pathology images, with future extensions to tissue abnormality detection, image retrieval, and pathologist visual attention aid
- Drafted a study of mathematical derivations of the forward and backpropagation through a CNN
- CVPR 2018 (Dec. 2017): submitted a paper proposing a novel CNN architecture with fixed-basis kernels (rejected)
- 2018 EngSci Machine Intelligence Bootcamp (Sep. 2018): presented poster on *Automated Abnormality Detection in Histopathological Images with Deep Learning*
- CVPR 2019 (Nov. 2018): submitted a paper introducing a histologically-annotated digital pathology database for deep learning (in review)
- IEEE TMI (Dec. 2018): submitted a paper on *Focus Quality Assessment of High-Throughput Whole Slide Imaging in Digital Pathology* (preprint)

Undergraduate Student Research Assistant May 2017-Aug. 2017
University of Toronto (Multimedia Lab) Toronto, Ontario, CANADA
Supervisors: Mahdi S. Hosseini, Dr. Konstantinos Plataniotis

- Devised novel image recognition method using a network of fixed convolutional kernels with maximally-polynomial frequency response
- Applied network to texture and digital pathology images

Interim Engineering Intern May 2015-Aug. 2016
Qualcomm Canada Markham, Ontario, CANADA

- DVP/HQV System Team: built regression test and dynamic test frameworks for the Video Post-Processing (VPP) library
- DVP/HQV Algorithm Team: built regression test framework for the Hollywood Quality Video (HQV) enhancement library (optical flow, cadence detection, deinterlacing), performed subjective quality assessment, and installed a camera calibration lab
- VESA DSC Proposal Team: built regression test framework for VESA Advanced Display Stream Compression (ADSC) standards, conducted subjective flicker testing
- Automotive Team: installed, operated automated mechanical testbed for mobile cameras
- Qualcomm HackMobile: competed in two hackathons in 2015 and 2016

Undergraduate Visiting Research Intern Jun.-Aug. 2014
Hong Kong University of Science and Technology (Human Language Technology Centre)
Clear Water Bay, New Territories, HONG KONG
Supervisors: SU Dan, Dr. Pascale Fung

- Worked on two projects: (1) cultural analysis of profile answers on dating website OkCupid and (2) song popularity analysis on microblogging platform Sina Weibo

Teaching

ECE462: Multimedia Systems (Head Lab TA) Jan.-Apr. 2018
University of Toronto Toronto, Ontario, CANADA
Instructor: Dr. Dimitrios Hatzinakos

- Responsible for designing and marking eight lab assignments and four quizzes, compiled student material for CEAB