LINDA WANG

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Education

University of Waterloo, Masters of Applied Science in Systems Design Engineering, 2018-2020 (expected)
Specializing in computer vision and deep learning, Advisor: Alexander Wong

University of Waterloo, Bachelor of Applied Science, 2013 - 2018
Systems Design Engineering with Distinction, Honours, Co-operative Program

Publications

L.Wang, A. Patnik, E.Wong, J. Wong, A. Wong, **"OLIV: An Artificial Intelligence-Powered Assistant for Object Localization for Impaired Vision"**, *Conference on Vision and Imaging Systems*, 2018

A. Boroomand, M.J. Sahfiee, **L. Wang**, E. Kuang, F. Kazemzadeh and A. Wong, **"Compensated lens-free light field microscopy"**, *International Conference on Inverse Problems in Engineering,* 2017

Research Experience

Graduate Research Assistant - Vision and Image Processing Lab
University of Waterloo, Canada, Sept 2018 - Present
- Developing an AI-driven assistant system to help those with visual impairment by combining different visual perceptions (object detection and depth) to produce a rich scene understanding, while maintaining a balance between speed, accuracy and size
- Prostate cancer classification using correlated diffusion images and shallow nets, such as LeNet

Undergraduate Research Assistant - Vision and Image Processing Lab
University of Waterloo, Canada, Sept 2016 - Dec 2017
- Optimizing existing object detection models by migrating them from Caffe to Caffe2, and employing these models to run in real-time on mobile devices
- Designed and developed a real-time reconstruction visualization platform backed by image quality enhancement algorithms for the light-field encodings captured using a lens-free nanoscopy system and dispersed Fourier Transform spectrometer
- Extended the capabilities of the light-field lens-free nanoscopy system to capture information at different wavelengths and concatenate these captures to produce a coloured image

Industry Experience

Software Engineer - Facebook Inc
Seattle, USA, May - Aug 2017
- Developed 3D multi facial deformations using OpenGL for the Augmented Reality Studio on the Computational Photography team
- Experimented with frame buffers in OpenGL to handle interferences when there are multiple faces

Hardware Engineer - Bluebank Communication Technology Co Ltd
Chongqing, China, Jan - Apr 2016
- Designed PCB layouts and component footprints for mobile device components
- Validated device systems using specialized equipment to measure relevant signals, current flow and voltages of device components, and to calibrate radio frequencies

Embedded System Developer - Molex
Waterloo, Canada, May - Aug 2015
- Designed a test system of multiple computers in a network and new automated MAC address retrieval algorithm, therefore increasing production and test efficiency

Teaching Experience

Teaching Assistant - MTE140 and BME122: Data Structures and Algorithms
University of Waterloo, Canada, Jan 2019 - Apr 2019

Projects

Survey of Nonlinear Kalman Filters
- Analyzed and compared performance of nonlinear filters when applied to nonlinear and non-Gaussian problems

Selective Attention Model
- Utilized the Neural Engineering Framework to simulate selective attention between the primary visual cortex and middle temporal area

Classifying Heartbeats
- Extracted features to classify audio heart sounds into five classes using machine learning models

Computer Vision System to Aid the Visually Impaired
- Worked in a team to build an assistive kitchen system for the visually impaired using computer vision
- Won Systems Design Award for Best Overall Project

Awards and Distinctions

Ontario Graduate Scholarship, 2018

President's Graduate Scholarship, 2018

Systems Design Award for Best Overall Project, 2018

President's International Experience Award, 2017

President's Research Award, 2017

NSERC Undergraduate Student Research Award, 2017

President's Athlete Academic Honour Roll, 2013-2017
University of Waterloo
- Awarded to student athletes who have achieved an average above 80% for the academic year

University of Waterloo President's Scholarship of Distinction, 2013

Advanced Placement Scholar with Distinction, 2013

Gold Standard of The Duke of Edinburgh's Award, 2012

Skills

Languages: Python, C++, Java, Matlab, C#, Swift, SQL
Tools: Tensorflow, OpenCV, Git, Mercurial, Unix, LaTeX

Interests

- Varsity Swim Team, University of Waterloo, 2013 - 2017
- Computer vision and deep learning
- Photography
- Traveling, exploring and hiking