VITHURSAN THANGARASA

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EDUCATION

MASc, Machine Learning & Artificial Intelligence
Machine Learning Research Group (MLRG), University of Guelph
May 2017 – Present Guelph, Ontario

- Research focuses on developing meta-learning/lifelong learning algorithms for Deep Neural Network architectures.
- Student member of the Vector Institute for Artificial Intelligence.
- Advised by Dr. Graham W. Taylor.

BEng, Engineering Systems & Computing (Honours, Co-op)
University of Guelph
Sept 2012 – Apr 2017 Guelph, Ontario

EXPERIENCE

Machine Learning Research Scientist
Uber AI Labs
Oct 2018 – Present San Francisco, California

Machine Learning Engineer, Computer Vision
Tesla, Inc.
May 2018 – Present Palo Alto, California

- Working with the Advanced Technology Group (ATG) on confidential future products and computer vision systems for Tesla's vehicles.

Deep Learning Data Scientist
Scotiabank - Artificial Intelligence & Machine Learning Group
Sept 2016 – Dec 2016 Toronto, Ontario

- Proposed and worked on an AI-Powered Financial Chatbot to provide significant business value for Scotiabank Customer 360° Intelligence.
- Implemented a generative dialogue model using novel Deep Learning techniques for Natural Language Understanding and Generation.

Hardware and Systems Developer
ON Semiconductor - Medical & Wireless Products Division
May 2016 – Aug 2016 Waterloo, Ontario

- Implemented a power supply and clock calibration firmware library for RSL10, an ultra-low-power multi-protocol BLE 5.0 SoC.

Software Engineer, Video Compression
Evertz Microsystems Ltd. - Canadian Headquarters
Jan 2015 – Aug 2015 Burlington, Ontario

- Independently researched and implemented a Capped Variable Bit-rate algorithm for Real-Time H.264 video encoders/transcoders.

Mobile Application Developer, Android
Jamdeo Ltd. (Flextronics & HiSense Joint Venture)
May 2014 – Aug 2014 Oakville, Ontario

- Developed security libraries for secure D2D communication in the core of an Internet of Things (IoT)-based Android application.

SOFTWARE EXPERTISE

Languages: Python C MATLAB

Deep Learning: PyTorch TensorFlow

Deep Learning Models: CNN RNN LSTM GAN VAE Seq2Seq

Software Tools: Scientific Python Stack NLTK Visual Studio Code Atom

DevOps Tools: AWS Terraform CloudFormation Docker Jira Git

HARDWARE EXPERTISE

Languages: VHDL Verilog

Design Tools: Xilinx ISE Vivado HLS GNU ARM Eclipse

Hardware: Embedded Systems Xilinx Zynq-7000 ARM Cortex-M

RESEARCH

Self-Paced Learning with Adaptive Deep Visual Embeddings
Vithursan Thangarasa, Graham W. Taylor, *In British Machine Vision Conference (BMVC)*, 2018.

PROJECTS

Magnet Loss for Metric Learning
PyTorch implementation of the Magnet Loss paper from FAIR.

ACHIEVEMENTS

Amazon Research Award (ARA)
University of Guelph
May 2017 – Present

Deep Learning & Reinforcement Learning Summer School
University of Montréal
June 2017 – July 2017