VITHURSAN THANGARASA

📍 41074 Pajaro Dr. Fremont, CA 94539　　📞 (510)-324-6084　　@ vthangar@uoguelph.ca
🔗 embedding.ai　　⌨ github.com/vithursant　　in linkedin.com/in/vithursant

EDUCATION

MASc, Machine Learning & Artificial Intelligence

Machine Learning Research Group (MLRG), University of Guelph

📅 May 2017 – Present　　📍 Guelph, Ontario

- Research focuses on developing Lifelong/Continual 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 Engineer, Computer Vision

Tesla, Inc.

📅 May 2018 – Present　　📍 Fremont, 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.
- Trained generative models on Amazon EC2 P2 instances using large-scale dialogue datasets, TensorFlow, and DevOps tools.

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.
- Performed hardware and firmware verification on the BLE 5.0 Security Stack: GAP/GATT pairing and bonding process for RSL10.

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, Dr. Graham W. Taylor, *In British Machine Vision Conference (BMVC)*, 2018. To appear.

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

- Accepted with CIFAR scholarship.
- 1 of 225 admitted out of an applicant pool of 1,130 from around the world.