Tung Thanh Le

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Education

University of Louisiana at Lafayette
September 2013 – Present
PhD Candidate, ***Computer Science***
(Expected: Dec 2017)
Co-Advisors:
Dr. Magdy Bayoumi (U. of Louisiana)
Dr. Danella Zhao (Old Dominion Univ.)
M.Sc., ***Computer Science*** (Dec 2016)

Kumoh National Institute of Technology
Sept 2011 – Jun 2013
M.Eng., **IT Convergence Engineering**
School of Electronic Engineering

Danang University of Technology
September 2002 – June 2007
B.Eng., graduation thesis distinction,
Automatic Control
School of Electrical Engineering

Research Interests

• Computer architecture for many-core systems.

• Scalable, interconnect, networks on chip in distributed systems.

• Optimization, Machine learning, Artificial Intelligence.

Professional Work Experience

University of Louisiana at Lafayette, LA, USA
Graduate Assistantship, *August 2013 - present*

Hanwha Thales (*aka. Samsung Thales*), South Korea,
Research Intern, *August 2012 – December 2012*

Orion Technologies Co., South Korea,
Summer Intern, *June 2012 – August 2012*

Unilab, Danang Univ. of Tech., Vietnam,
Software Engineer, *May 2008 – August 2011*

Acronics Systems Inc., CA, USA, (Danang office, Vietnam)
PCB Engineer, *June 2007 – April 2008*

Honors & Awards

• *Graduate Teaching Assistantship*, Fall 2015 - Present
• *NSF Graduate Research Fellowship*, *Aug. 2013 – Aug. 2015*
• Best Paper Award – *14th Conference on Electronics & Information Communications, 2012*
• NIPA scholarship and NRF scholarship, South Korea, *Sept 2011 – Jun 2013*
• Samsung Thales scholarship for student travel, *Dec 2012*
• Excellent student in Danang University of Technology, *Jan 2004 – Jun 2007*
• One of four honor students achieving highest score on graduation thesis (4/500), *Jun 2007*

Selected publications

• Efficient Reconfigurable Global Network-on-chip Designs towards Heterogeneous CPU-GPU Systems: An Application-Aware Approach – *ISVLSI 2017*
• Optimizing the Heterogeneous Network-On-Chip Design in Manycore Architectures – *IEEE SOCC 2017*

Projects

• **HeteroArchGen4M2S**: An automatic software for configuring and running heterogeneous CPU-GPU architectures (HSA) on Multi2Sim simulator. This tool is built on top of M2S simulator, it allows us to configure different HSA (e.g., #CPUs, #GPUs, L1$, L2$, memory, network topologies, etc). The output files include the results of network throughput and latency, and dynamic power of the cores.
• **Behavioral Cloning** (Use Deep Learning to Clone Driving Behavior, the Self-Driving Car Engineer Nanodegree Program on Udacity) Built and trained a convolutional neural network to drive the car itself autonomously in a simulator using Tensorflow (backend) and Keras. Experimented with a modified Nvidia architecture. Performed image processing with brightness, shadow augmentation, and flipped images. Used dropout and Adam optimizer to generalize the network for driving multiple tracks. The datasets are used via Udacity's source for training the model. Trained the model on Amazon AWS EC2 platform with GPU instances.
• **Traffic Sign Recognition Classifier** (Deep Neural Network with Tensorflow, project of the Self-Driving Car Engineer Program on Udacity) Built and trained a deep neural network to classify traffic signs, using TensorFlow. Experimented with different network architectures. Performed image pre-processing and validation to guard against overfitting. The datasets are collected from the German Traffic Sign for training and random traffic signs downloaded from internet for testing.
• **Vehicle Detection and Tracking** (Computer Vision) Detect and track vehicles using color and histogram of oriented gradient features (HOG) and a support vector machine (SVM) classifier.
• **Advanced Lane Finding** (Computer Vision) Built an advanced lane-finding algorithm using distortion correction, image rectification, color transforms, and gradient thresholding. Identified lane curvature and vehicle displacement. Overcame environmental challenges such as shadows and pavement changes.
• **Finding lane lines on the road** (Computer Vision) Detected highway lane lines on a video stream. Used OpenCV image analysis techniques to identify lines, including Hough Transforms and Canny edge detection.
• **Pingo'in** (Android Application) This app is created by using a Google maps API. You can build your list of points of interest (POI) on the Google's map, then the application will scan your map within the preset radius, if your POIs are within this radius, they will be displayed on your screen. Used Java, Eclipse for building the app, and used SVN for merging the code project.
• **New Cinema Booking System** (Database Systems) Designed the database system using ER-diagram. Used MySQL and PHP to build the online booking system. Two modes for admin and users.
• **Price Dropping Looker:** A tool for looking into the price dropped of the *Amazon*'s items. Your wish-list items on Amazon will be alerted via your email if those prices are dropped below your expected price, the ratings and number of reviews also are taken into account.
• **Online Courses: Machine Learning by Stanford University** (Coursera-License#: 7MMK9BZBASXN); **Java Multithreading** (Udemy-License#: UC-TBSY47EV); **Deep Learning by Google Brain** (Udacity); **Self-Driving Car Engineer Nanodegree Program** (Udacity);

Computer skills

Expertise with **Java**, **Python**, **Tensorflow**, **C++, Keras, MATLAB**, **Assembly**;
Fluency with **OpenCV, Scikit learn**, **HTML**, **PHP**, **MySQL**, **Scheme**, **R**, **CPLEX/AMPL**, **Verilog**, **VHDL**, **LaTEX.**