

# Trinh Hoang Trieu



<https://thtrieu.github.io>

+84.129.303.1269

## Education

2013 – present	Bachelor of Science Advanced Program in Computer Science	Ho Chi Minh University of Science Vietnam National University
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## Research Internships

May 2016 – July 2016	Misfit Wearables Inc.	Deep Learning for Machine Vision
<ul style="list-style-type: none"><li>Work with Tensorflow, Caffe and the integration of <i>Deep Learning on mobile applications</i>. (detail N/A)</li></ul>		
January 2016 – March 2016	Japan Advanced Institute of Science and Technology	Deep Learning for Natural Language Processing
<ul style="list-style-type: none"><li>Translate original <i>Theano code to Tensorflow</i>, experiment new models on new dataset.</li><li>Implemented: <i>Long Short Term Memory, Gated Recurrent Unit, CNN - LSTM</i> with Tensorflow on top of Mikolov's Word2vec embeddings.</li><li>Improved vanilla Convolutional baseline for Question Classification on Vietnamese TREC dataset.</li></ul>		
June 2015 – September 2015	Ecole Polytechnique de Montreal	Educational Data Mining (EDM)
<ul style="list-style-type: none"><li>Build a <i>computational graph</i> as an open sourced <u>R package</u> to perform educational data synthesizing.</li><li>Automate learning parameters and generating new data under 11 standard models of EDM.</li></ul>		

## Open-sourced Projects

August 2016 – present (on going)	<u>Darkflow</u> ★ 112	Python, Tensorflow
<ul style="list-style-type: none"><li>A visual oriented deep learning application, with Tensorflow back-end.</li><li>Allows designing the deep net in text format, training and freezing the graph for production environment.</li><li>Compatible with <u>Darknet</u> framework: load / partial load / extract binary weights.</li><li>Current working models: YOLOv1 and the new <b>YOLO9000</b> – real time object detection and classification.</li><li>Trained a new YOLO model for object detection and classification in office setting (four classes).</li><li>Featured as a <b><u>Awesome Tensorflow repository</u></b>.</li></ul>		
December 2016 – present (on going)	<u>Essence</u>	C, Cython, Python, Numpy
<ul style="list-style-type: none"><li>A symbolic, Directed Computational Graph constructor <b>built from scratch</b>, with auto differentiation supported.</li><li>Working optimizers: vanilla Stochastic Gradient Descent, RMSProp and ADaptive Momentum estimator.</li><li>Working demo models: Depth-2 MLP, LeNet with Batch Normalization, Long Short Term Memory on Word2Vec for sentence classification, <b>Neural Turing Machine</b> for copying task.</li><li>A selected project on <b><u>A Wild Week in A.I. newsletter</u></b> #35.</li></ul>		
December 2015 – May 2016	<u>Educational Data Synthesizer</u>	R (Statistical Computing Language)
<ul style="list-style-type: none"><li>Version 2.0, allow customizing the built-in models and adding new nodes / interactions / models to the graph.</li></ul>		
March 2016 – June 2016	<u>Last Layer of DeepNets</u>	Python, Tensorflow
<ul style="list-style-type: none"><li>Modify the last layer of a deep classifier, experiment on SVM and Linear Fisher Discriminant.</li><li>Replace the soft-max with the above linear classifier and perform classification in One-Vs-All scheme.</li><li>Experimented adding a regularizer to encourage feature separability for SVM training.</li></ul>		

## Honor, Awards and Scholarships

2016	Wilmar CLV's top 24 students to present at Project presentation round (top 15%)
2016	Japan Student Services Organization (JASSO) Scholarship for Research (top 10%)
2015	America Chamber of Commerce scholarship (top 12%)
2015	Mitacs Globalink Research Full Scholarship (top 7%)
2014	Full Scholarship for First Ranked Student of 2013 - 2014
2013	Full Scholarship, University Entrance Valedictorian
2012	Bronze medal – Southern Vietnam Mathematics Olympiad Third prize – Provincial Competition