

# Trinh Hoang Trieu



<https://thtrieu.github.io>

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## Education

2013 – present  
GPA: 3.90 (May 2016)

Bachelor of Science  
Advanced Program in Computer Science

Ho Chi Minh University of Science  
Vietnam National University

## Research Internships

May 2016 – July 2016

Misfit Wearables Inc.

Deep Learning for Machine Vision

- Work with Tensorflow, Caffe, *bring Deep Learning models onto mobile devices.*

January 2016 – March 2016

Japan Advanced Institute of  
Science and Technology

Deep Learning for  
Natural Language Processing

- Translate original *Theano* code to *Tensorflow*, experiment recurrent models on new dataset.
- Implemented: *Long Short Term Memory*, *Gated Recurrent Unit*, *CNN - LSTM* with *Tensorflow* on top of Mikolov's Word2vec embeddings.
- Improved vanilla Convolutional baseline for Question Classification on Vietnamese TREC dataset.

June 2015 – September 2015

Ecole Polytechnique de Montreal

Educational Data Mining (EDM)

- Build a *computational graph* as an open sourced R package to perform educational data synthesizing.
- Automate learning parameters and generating new data under 11 standard models of EDM.

## Open-sourced Projects

August 2016 – present (on going)

Darkflow ★ 127

Python, Tensorflow

- A visual oriented deep learning application, with Tensorflow back-end.
- Allows designing the deep net in text format, training and freezing the graph for production environment.
- Compatible with Darknet framework: load / partial load / selectively extract binary weights.
- Current working models: YOLOv1 and the new **YOLO9000** – real-time object detection and classification.
- Trained a new YOLO model for object detection and classification in office setting (four classes).
- Featured as an **Awesome Tensorflow** repository.

January 2017 – present (on going)

Essence

C, Cython, Numpy

- A symbolic, Directed Computational Graph constructor **built from scratch**, with *auto differentiation* supported.
- Working optimizers: vanilla Stochastic Gradient Descent, RMSProp and ADaptive Momentum estimator.
- Working demo models: LeNet with Batch Normalization, Long Short Term Memory on Word2Vec for sentence classification, **Visual QA** with VGG16 and stack-3 LSTM features, **Neural Turing Machine** for copying task.
- A selected project on **A Wild Week in Artificial Intelligence newsletter** #35.

December 2015 – May 2016

Educational Data Synthesizer

R (Statistical Computing Language)

- Version 2.0, allow customizing the built-in models and adding new nodes/interactions/models to the graph.

March 2016 – June 2016

Last Layer of DeepNets

Python, Tensorflow

- Modify the last layer of a deep classifier, experiment on SVM and Linear Fisher Discriminant.
- Replace the soft-max with the above linear classifiers and perform classification in One-Vs-All scheme.
- Experimented adding a regularizer to encourage feature separability for SVM training.

## 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 (AmCham Vietnam) scholarship (top 12%)

2015

Mitacs Globalink Research Full Scholarship (top 7%)

2014

Full Scholarship for First Ranked Student *with Highest GPA* of 2013 - 2014

2013

Full Scholarship, University Entrance Valedictorian

2012

Bronze medal – Southern Vietnam Mathematics Olympiad  
Third prize – Provincial Competition