

Yu-Fang (Judy) Chang

+1(650)772-1736 | yufangc@andrew.cmu.edu

EDUCATION

Carnegie Mellon University, School of Computer Science, Pittsburgh, PA

Dec 2016

Master of Science in Computer Vision (Robotics Institute) - **GPA: 3.84**

- *Selected Courses:* Machine Learning, Computer Vision, Visual Learning and Recognition, Probability Graphical Model, Math Foundation for Robotics
- *Fall 2016 Courses:* Geometry-based Methods in Vision, Parallel Computer Architecture and Programming

National Taiwan University, Taipei, Taiwan

June 2015

Bachelor of Science in Electrical Engineering - **major GPA: 3.85**

(* : graduate-level courses)

- *Selected Courses:* Digital Visual Effects*, 3D Multimedia System Design*, Artificial Intelligence* Software Engineering* (OO Design Pattern), Data mining*, Algorithm and Data Structure, System Programing, Operating System, Introduction of Computer Networks, Digital Speech Progressing*

WORK EXPERIENCE

Volkswagen Group of America, Deep Learning Intern, United States

May 2016 ~ Aug 2016

- Built visualization system for convolutional and recurrent neural networks in self-driving project
- Integrated and maintained neural network based algorithms into project vehicles (*Caffe, Tensorflow*)

Intel Co. Software Engineering Intern, Taipei, Taiwan

July 2014 ~ June 2015

- Validated various open source solutions on latest Intel architectures for cloud storage application
- Implemented kernel code on Linux to settle customers' problems in Direct Memory Access

SKILLS

Programming Languages C/C++, Python, Java, MATLAB, Verilog, UNIX shell script, CSS, Javascript
Tools Caffe, Tensorflow, Torch, OpenCV, OpenCL, OpenGL ES, Scikit-Learn

RESEARCH / SELECTED PROJECTS

Visual Representation Learning by Predicting the Entire Context (Caffe)

Feb 2016 ~ May 2016

- Proposed a network to solve the jigsaw puzzle problem and learn visual representation unsupervisedly
- Performed experiments on pretext task and tried to apply the learned model to fine-tune fast-RCNN

Real-time Egocentric Human Activity Analysis (Python, OpenCV)

Jan 2016 ~ Present

- Proposed an approach to discover the hotspot in first-person videos where people most interested in
- Aimed to localize people without sensors and construct a 3D model to guide the blinds with camera phones

Context Generative Recurrent Neural Network Language Model (Caffe)

Feb 2016 ~ May 2016

- Developed a fast alternative to Latent Dirichlet Allocation to provide a better representation for context
- Improved on classical RNNLMs by augmenting the RNN architecture to take an additional context vector

Selective Search for Object Recognition (C++, OpenCV)

Oct 2015 ~ Dec 2015

- Implemented bottom-up grouping algorithm with complementary strategies to generate hierarchy regions
- Applied the selected windows to Support Vector Machine with histogram intersection kernel

Acceleration of the Defocus Map Estimation (OpenCL)

May 2015 ~ June 2015

- Increased 600% improvement of speed with GPU parallel computing
- Applied the result in defocus magnification, image deblurring, image quality assessment and refocusing

Air Hockey demonstrated in Maker Faire Taipei 2015

Feb 2015 ~ May 2015

- Built an Air Hockey machine with robotic arms reacting instantly to players' attack
- Completed an OpenCV-based camera tracking system to capture the motion and predict the path

Concept Matching in Speech Information Retrieval (C++)

Sep 2013 ~ June 2014

- Designed a literal matching system capable of retrieving highly relevant information without the keywords