

# Kevin Jonathan Shih

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## EDUCATION

*PhD*, University of Illinois, Urbana-Champaign (Fall 2011-2017)

- Department: Computer Science
- Area of focus: Computer Vision, Machine Learning
- Advisor: Derek Hoiem

*BSE*, University of Michigan, Ann Arbor (Fall 2008-Spring 2011)

- Department: Computer Science
- GPA: 3.936/4.0 (Summa Cum Laude)

## SELECT PUBLICATIONS

- Tanmay Gupta, **KJ Shih**, S Singh, D Hoiem. *Aligned Image-Word Representations Improve Inductive Transfer Across Vision-Language Tasks*. In ICCV 2017
- **KJ Shih**, S Singh, D Hoiem. *Where To Look: Focus Regions for Visual Question Answering*. In CVPR 2016 (Spotlight)
- **KJ Shih**, A Mallya, S Singh, D Hoiem. *Part Localization using Multi-Proposal Consensus for Fine-Grained Categorization*. In BMVC 2015
- **KJ Shih**, I Endres, D Hoiem. *Learning Discriminative Collections of Part Detectors for Object Recognition*. In PAMI 2014.
- I Endres, **KJ Shih**, J Jiaa, D Hoiem. *Learning Collections of Part Models for Object Recognition*. In CVPR 2013.
- MJ Kochenderfer, **KJ Shih**, JP Chryssanthacopoulos, CE Rose, TR Elder. *Position Validation Strategies Using Partially Observable Markov Decision Processes*. In DASC 2011.

## EXPERIENCE

*Research Assistant*

Fall 2011-present

University of Illinois

- Applied machine learning and pattern recognition techniques to improve state-of-the-art object detection capabilities
- Explored applications of deep learning methods in joint vision-language tasks
- Maintained shared linux-based GPU servers for research group

*Teaching Assistant for CS543 Computer Vision*

Spring 2015

University of Illinois

- Taught lecture on clustering techniques
- Held weekly office hours and helped grade assignments

*Research Intern*

Summer 2014

eBay Research Labs

- Developed system to look up book cover catalogue images using mobile images of books
- Developed pipeline for extracting blocks of text from images normally impossible to parse with off-the-shelf OCR software
- Created and annotated a dataset of over 100K book cover images with title and author metadata

*Research Intern*

Summer 2011

MIT Lincoln Laboratory

- Worked with staff in air-traffic control division to develop a safer interrogation system for aircrafts
- Applied Partially Observable Markov Decision Processes to create a system that learned an intelligent behavior pattern for position interrogation
- Wrote MATLAB and C++ code to generate and test results
- Published work to 30th Digital Avionics Systems Conference (Best Paper of Session Award)

*Undergraduate Machine Learning Course Instructor's Aide* Winter 2010  
University of Michigan

- Held office hours to assist students in understanding basic concepts in machine learning
- Designed datasets for homework assignments
- Implemented and documented solutions for homework assignments

*Engineering 101 Course Instructor's Aide* Fall 2010  
University of Michigan

- Held office hours to assist students in basic programming techniques
- Helped grade exams

*Research Intern* Summer 2010  
MIT Lincoln Laboratory

- Worked with staff in the cyber-security division to develop for NMAP(Network Mission Assessment Tool)
- Implemented user interfaces in Java Swing
- Integrated machine learning and data mining techniques into the toolset

**HONORS AND AWARDS** Computer Science and Engineering Scholars Award (Fall 2009-Winter 2010)  
Graduated Summa Cum Laude from the University of Michigan  
NSF Honorable Mention (2012)

**COMPUTER SKILLS** *Languages & Software:* MATLAB, Java, C, C++, python, bash, Tensorflow, Mat-ConvNet, Caffe  
Advanced Linux user in shell environments  
Familiar with most forms of version control  
Experience managing multiple linux servers for more than ten users

**COURSES**

- Linear Algebra
- Probabilistic Graphical Models
- Machine Learning
- Non-Linear Programming
- Algorithms
- Computer Vision

**EXTRA-CURRICULAR** Taekwondo (certified 1st degree blackbelt)  
HKN (Eta Kappa Nu honor society)

**Languages** English (Native), Chinese (Secondary)