# KAI CHEN

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## EDUCATION

**Fudan University(FDU)**, Shanghai, China *Sep 2016 - Jun 2020*
B.S. in **Computer Science**, Minor in **Economics**
Overall GPA: 3.7/4.0, Major GPA: 3.91/4.0, Ranking: 3/32
Adviser: Prof. Xipeng Qiu @ FudanNLP

**University of Manchester**, Manchester, UK *Sep 2018 - Jan 2019*
Exchange student in Computer Science, advised by Dr. Tingting Mu

**Indiana University Bloomington**, Bloomington, USA *June 2019 - Sep 2019*
GTAP Scholar, advised by Prof. David Crandall @ IU Computer Vision Lab

## PUBLICATIONS

- Md Alimoor Reza, Akshay Naik, **Kai Chen**, David Crandall, "Automatic Annotation for Semantic Segmentation in Indoor Scenes," *IEEE International Conference on Intelligent Robots and Systems (IROS), 2019*

## HONORS

Joel & Ruth Spira Scholarship (1%) Mar 2019
National Scholarship for Outstanding Students (1%, by Ministry of Education of P.R.China) Sep 2018
Scholarship for Outstanding Undergraduate Students (5%) Oct 2017
Outstanding undergraduate of Fudan University (10%) May 2018 & Oct 2017
1st Prize - "ChuangQingChun" Enterprising Competition FDU Division(10%) Feb 2018

## RESEARCH EXPERIENCE

**Automatic Annotation for Semantic Segmentation in Indoor Scenes** June 2019 - Sep 2019
*Undergraduate Research* *Advisor:Dr. Md Reza and Prof. David Crandall, IUB*

· Expensive for humans to get image semantic labels manually, so it's necessary to generate image semantic annotation automatically without any ground truth labels
· Use Mask RCNN to detect foreground objects and 3D layout segmentation to recognize background information and then gather them together
· Find best annotation to minimize a well-defined CRF-based energy function

**Unsupervised Object Detection using Variational AutoEncoder** Feb 2019 - June 2019
*Undergraduate Research* *Advisor:Prof. Bin Li and Prof. Xiangyang Xue, FDU*

· Do object detection on special raw images (e.g. MINST) in a unsupervised way without any ground truth
· Understand an image in a structural way, i.e. use an RNN to encode one object at a time
· Reconstruct the object using VAE to get training signal

**Link Prediction on Weighted Signed Social Network** July 2018 - Present
*Undergraduate Research* *Advisor:Prof. Yitong Wang, FDU*

- Focus on link prediction problems in Weighted Signed Social Network (WSN)
- Come out an algorithm called MFLG, a new network embedding algorithm based on matrix factorization
- Also use other algorithms' prediction results as features to do linear prediction and get a higher and more robust model
- Summarize our work into a paper as the third author (waiting for notification)

**Deep learning Tutorial: Re-implement Computer Vision models** Sep 2018 - Dec 2018

- Discriminative Model: VGG, Resnet-20 on on cifar-10 dataset
- Generative Model: GANs, DCGAN, VAE
- Object Detection Model: YOLO, YOLOv2, SSD
- Style transfer: generate a new image whose content is from one image but style comes from another

**P2P chatroom on LAN** May 2018 - June 2018
*Couesr Project*

- Supported text, audio and video communication using C#
- Build a Server only for users to exchange their IP address
- Used OMCS frame to capture audio and video data using UDP Socket to exchange among users

## CAMPUS EXPERIENCE

**Vice President of Kicking and Rolling Club in FDU** Sep 2018 - June 2019

- Responsible for kicking and Rolling competition of FDU in every semester
- Responsible for enrollment and training of FDU's kicking and rolling school team

**46th Fudan University Student Committee Member** Sep 2017 - June 2018

- Implement student rights on behalf of CS students e.g. selecting the Student Union President of the year
- Transfer students' opinions about campus to relevent school department
- Submit a proposal giving advice on FDU teaching building reconstruction and won the 3rd price in the proposal competition

**Project Assistant of FDU Junior Achievement** Sep 2016 - June 2017

- Lead a team to take part in Bottom Of Pyramid (BOP) business competition 2017
- Responsible for holding regular BOP lectures for FDU students

## TECHNICAL SKILLS

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|---|---|
| **Program Languages** | Python, Matlab, C/C++/C#, SQL, Latex |
| **Framework** | Tensorflow, Pytorch |
| **Language** | Native in Mandarin Chinese, Fluent in English<br>CET-4(649), CET-6(619), IELTS(6.5) |