GU, XIUYE

(650)804-3937 ⋄ xiuyegu@stanford.edu

Education Background

Stanford University, CA, USA
M.S. in Computer Science (AI & Theory specialization) *Sept. 2017 – Present*

· GPA: 4.081

Zhejiang University, Zhejiang, PRC
B.E. in Computer Science *Sept. 2013 – June 2017*

· GPA: 3.96/4.0; 3rd year GPA: 4.0/4.0; **Rank 1/189**

University of California, Davis, CA, USA
Global Research Experience in Advanced Technologies Program *July 2016 – Sept. 2016*

· GPA: A

Publications

· **Xiuye Gu**, Weixin Luo, Michael S. Ryoo, Yong Jae Lee. *Password-conditioned Anonymization and Deanonymization with Face Identity Transformers. Submitted to* AAAI, 2020

· **Xiuye Gu**, Yijie Wang, Chongruo Wu, Panqu Wang, Yong Jae Lee. *SPLFlowNet: Sparse Permutohedral Lattice FlowNet for Scene Flow Estimation on Large-scale Point Clouds.* CVPR, 2019

· Maheen Rashid, **Xiuye Gu**, Yong Jae Lee. *Interspecies Knowledge Transfer for Facial Keypoint Detection.* CVPR, 2017

· Deng Cai, **Xiuye Gu**, Chaoqi Wang. *A Revisit on Deep Hashing for Large-scale Content Based Image Retrieval.* arXiv:1711.06016, 2017

Research Experience

Visiting Scholar – University of California, Davis
Advisor: Prof. Yong Jae Lee *Sept. 2018 – March 2019*

· Proposed a novel computer-vision approach for password-conditioned face anonymization and deanonymization using a single framework

· Achieved photo-realistic anonymization, deanonymization, wrong reconstruction and multimodality on different passwords

Software Engineer Intern – TuSimple, San Diego
Advisor: Dr. Panqu Wang *June 2018 – Aug. 2018*

· Studied efficient scene flow estimation for large-scale 3D point clouds using deep learning

· Proposed three novel bilateral convolution layers and a normalization scheme on permutohedral lattice for the above task; achieved state-of-the-art results on FlyingThings3D and KITTI

Leonidas Guibas Lab
PhD Advisor: Ruizhongtai Qi *Oct. 2017 – May. 2018*

· Studied rotation-invariant PointNet and experimented Capsule Network on 3D point clouds

· Accelerated PointNet++ by 47% in training time and 21% in testing time without sacrificing accuracy

Research Assistant – University of California, Davis
Advisor: Prof. Yong Jae Lee *July 2016 – Nov. 2016*

· Proposed a novel approach for localizing animal facial landmarks by making horse faces look like human faces and transferring knowledge; achieved state-of-the-art results on animal facial keypoint detection

· Built a dataset of $3,717$ horse facial images with key point annotations

Research Assistant – State Key Lab of CAD & CG, Zhejiang University
Advisor: Prof. Deng Cai *May 2016 – May 2017*

- Revealed and empirically proved three common flaws in existing deep hashing papers
- Revised the experimental setting and made a benchmark dataset for (semi-supervised) ANN search

Selected Projects

Simulation and Rendering of Explosion
Course project for CS348B *Spring, 2018–2019*

- Extended PBRT to fully support emissive volumes (both homogeneous and heterogeneous) and openVDB input format
- Implemented blackbody radiation to render fire and explosion from density and temperature
- Used Blender to simulate explosion, smoke, and flying rubbles

License Plate Recognition System
Advisor: Prof. Deng Cai *2015 – 2016*

- Proposed a robust iterative license plate character segmentation algorithm; achieved 4% error rate on low resolution images
- Built a license detection system with robust skew and slant correction to improve character segmentation
- Wrote surveys on license plate detection, character segmentation and character recognition

EFANNA : An Extremely Fast Approximate Nearest Neighbor Search Algorithm Based on kNN Graph
Advisor: Prof. Deng Cai *2016*

- Contributed to the EFANNA open source library and conducted comparison experiments
- Adopted the *Lanczos* algorithm and used the Boost and CLAPACK library to efficiently reimplement the *Anchor Graph Hashing* and *Fast kNN Graph Construction with Locality Sensitive Hashing* algorithms

Selected Honors & Awards

- National Scholarship in China (**1.5%**) 2015, 2016
- First-Class Scholarship for Outstanding Students (**3%**) 2015, 2016
- First-Class Scholarship for Outstanding Merits (**3%**) 2015, 2016
- HE Zhijun Scholarship [1] 2016
- Excellent Student Awards, Zhejiang University 2014

Selected Course Work

- AI: Machine Learning (CS229), Computer Vision: From 3D Reconstruction to Recognition (CS231A), Natural Language Processing with Deep Learning (CS224N), Mining Massive Data Sets (CS246)
- Theory: Randomized Algorithms and Probabilistic Analysis (CS265), Algorithmic Techniques for Big Data (CS368), Introduction to Optimization Theory (CS269O), The Modern algorithmic Toolbox (CS168)

Technical Skills

- PyTorch, TensorFlow, Caffe, Torch, OpenCV
- Python, C/C++

[1] Highest honor in College of Computer Science, Zhejiang University.