Zhen Wei

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EDUCATION

UNC at Chapel Hill
University of North Carolina
Ph.D., Computer Science
3D Computer Vision Group
2016-2023 | Chapel Hill, NC

Shanghai Jiao Tong University
B.S.E., Computer Science and Technology
2012-2016 | Shanghai, China
ACM Honored Class (a pilot computer science class in China)
Zhiyuan College

LINKS

Github:// **zhenni**
LinkedIn:// **zhenwei528**
Google Scholar:// **Zhen Wei**

COURSEWORK & TA

(TA) Deep Learning
(TA) 2D Computer Graphics
(TA) Computational Photography
Computer Vision in our 3D World
Graphics & Machine Learning
Physically Based Modeling & Simulation
Machine Learning
Optimal Estimation for Image Analysis
Robotics
Mobile Computing Systems

SKILLS

Deep Learning Framework
PyTorch • Tensorflow • Caffe

Programming Languages
Over 10000 lines:
C++ • Python • Java
Over 5000 lines:
Matlab • Android • Bash
Over 1000 lines:
html • Javascript

Design & Fine Art
Adobe: Photoshop • Premiere • Audition • Illustrator • Animate
Fine Art Portfolio:// **zhenni** • **IG**

SELECTED AWARDS

2021-2022 | John M. Glotzer Teaching Assistant Award, UNC CS
5.2016 | China Collegiate Programming Contest Women Final 2016. Rank 2

SELECTED WORK EXPERIENCE

The University of North Carolina | 3D Vision | Research Assistant
Advisor: Prof. Jan-Michael Frahm, UNC-CH, Meta *Chapel Hill, NC | 9.2016-12.2023*

- Human Body Reconstruction & Pose Estimation in Extended Reality (AR/VR)
- Proposed 3D human pose estimation algorithm for top-down egocentric dataset[1,3]
- Led the creation head-worn device prototype (glasses[1]) with mounted cameras
- Captured egocentric 3D human pose data[1,3] (Engineered remote capture system)
- Contributed to impactful projects by applying expertise in human body research.[4,5]
- Closely working with Prof. Henry Fuchs on Egocentric Human Pose for Parkinson's

Adobe Research | Research Intern *San Jose, CA | 05.2020-07.2020*

- 3D Human body pose and shape estimation. *Part-time Intern | 08.2020-12.2020*
- Research on clothed human body dataset focusing on registration & deformation
- Proposed parametric neural implicit model for articulated-deformable body shapes

Meta Research | Research Intern *Menlo Park, CA | 05.2019-08.2019*

- Proposed egocentric pose estimation method *Part-time Intern | 08.2019-05.2020* outperforming the state-of-the-art techniques with a 20% error reduction.
- Collaborated with researchers on groundbreaking architecture search project[3]

Amazon Robotics Applied Scientist Intern *Seattle, WA | 05.2018-08.2018*

- Developed CNN understanding platform empowering researchers & product team
- Proposed a novel CNN understanding and visualization algorithm
- Collaborated cross-functionally leveraging CNN understanding to various projects

SAIC Innovation Center | Summer Intern *San Jose, CA | 05.2017-08.2017*

- Developed 3D object detection algorithm for autonomous driving (Image & Lidar)
- Coordinated with the team to integrate techniques into real-world applications.

Microsoft Research Asia | Research Intern *Beijing, China | 08.2015-02.2016*

- Contributed to design a new architecture for deep networks (Deeply-Fused Nets)[6]
- Developed DisturbLabel method and other applications on ImageNet[7]

Shanghai Jiao Tong University | BCMI Lab | RA *07.2014-06.2016*

- Researched large-scale image retrieval using hashing (traditional & deep learning)

SELECTED PUBLICATIONS

[1] Dongxu Zhao, **Zhen Wei**, Jisan Mahmud, and Jan-Michael Frahm. **(Oral)** *"EgoGlass: Egocentric-View Human Pose Estimation from an Eyeglass Frame"* **International Conference on 3D Vision (3DV), 2021**

[2] Xiaoliang Dai, Alvin Wan, Peizhao Zhang, Bichen Wu, Zijian He, **Zhen Wei**, *et al.* *"FBNetV3: Joint Architecture-Recipe Search using Neural Acquisition Function* **IEEE Conference on Computer Vision and Pattern Recognition(CVPR),2021**

[3] Young-Woon Cha, True Price, **Zhen Wei**, Xinran Lu, *et al.* *"Towards Fully Mobile 3D Face, Body, and Environment Capture Using Only Head-worn Cameras"* **IEEE Transactions on Visualization and Computer Graphics (TVCG), 2018**

[4] Price, True, Johannes L. Schönberger, **Zhen Wei**, Marc Pollefeys, and Jan-Michael Frahm. *"Augmenting Crowd-Sourced 3D Reconstructions using Semantic Detections"* **IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018**

[5] Dinghuang Ji, **Zhen Wei**, Enrique Dunn, Jan-Michael Frahm. *"Dynamic Visual Sequence Prediction with Motion Flow Networks"* **IEEE Winter Conf. on Applications of Computer Vision (WACV), 2018.**

[6] Jingdong Wang, **Zhen Wei**, Ting Zhang, Wenjun Zeng. *"Deeply-Fused Nets"* **arXiv preprint arXiv:1605.07716** https://arxiv.org/abs/1605.07716

[7] Lingxi Xie, Jingdong Wang, **Zhen Wei**, Meng Wang, Qi Tian. *"DisturbLabel: Regularizing CNN on the Loss Layer"* **IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016.**

SELECTED GRADS COURSE PROJECTS

Robotics Object-oriented Dense 3D Semantic Mapping with CNN *semantic visual SLAM, C++*
Mobile APP Dance Dance Convolution *Android dance game with human pose detection, JAVA*