Shuhong Zheng

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Education

Peking University (PKU) — Beijing, China
B.S. in Computer Science — Sept. 2018 – July. 2022 (expected)
Overall GPA: 3.77/4.0, Major GPA: 3.80/4.0
WES GPA: 3.91/4.0 verified by World Education Services (WES)

Research Experience

Wangxuan Institute of Computer Technology, Peking University (PKU) — Beijing, China
Research Intern Guided by Prof. Jiaying Liu — Oct. 2020 – Present

- Working on image enhancement and human motion topics

University of Illinois at Urbana-Champaign (UIUC) — Illinois, U.S.
Research Intern Guided by Prof. Yuxiong Wang — July. 2021 – Present

- Working on scene understanding, based on neural radiance fields (NeRF)

Publications/Manuscripts

1. Mingtong Zhang*, **Shuhong Zheng***, Zhipeng Bao, Martial Hebert, and Yuxiong Wang. Beyond RGB: Scene Analysis by Synthesis with Neural Radiance Fields. *Under Review.* Submitted to *IEEE/CVF Conference on Computer Vision and Pattern Recognition* ***(CVPR)***, 2022. **(* Equal Contribution, Co-First Author)**
2. Lilang Lin, Sijie Song, **Shuhong Zheng**, and Jiaying Liu. EMS2L: Enhanced Multi-Task Self-Supervised Learning for 3D Skeleton Representation Learning. *Under Review.* Submitted to *IEEE Transactions on Neural Networks and Learning Systems* ***(TNNLS)***.

Competitions

- **Winner** of the Grand Challenge on *IEEE International Workshop on Multimedia Signal Processing* ***(MMSP)***, 2021
  First Place *on both IR (Image Restoration) track and IE (Image Editing) track, and the* ***Final Winner*** *of the* ***MMSP 2021 Grand Challenge***

Standardized Tests

- **TOEFL iBT** — Mar. 2021
  106 (Reading 28, Listening 29, Speaking 24, Writing 25)
- **GRE** — Oct. 2020
  331 + 3.5 (Verbal 161, Quantitative 170, Analytical Writing 3.5)

Scholarships and Awards

- Merit Student, Peking University — 2021
- Peking University Scholarship (Third-Class), Peking University — 2021
- Academic Excellence Award, Peking University — 2020
- Academic Excellence Award, Peking University — 2019

Other Projects

- **A Survey on High Dynamic Range (HDR) Imaging**
  Conduct a survey and write a survey paper on HDR imaging, starting from classical traditional methods to deep learning methods. [pdf]
- **Image Classification**
  Participate in the competitions of 50 scenes and 180 fine-grained bird species on Kaggle (https://www.kaggle.com/).
- **AI Poet**
  Use deep learning methods to train an AI Poet that can write ancient Chinese poems like humans.
- **Image Restoration**
  Use both traditional methods and deep learning methods to restore images damaged by random noise.
- **News Classification**
  Use both traditional methods and deep learning methods to classify the news into different topics according to their titles.
- **Lab on Operating System**
  Implement and optimize the functions of a toy operating system, including process management, memory system and file system.
- **Game AI**
  Implement Game AIs on two games (*the Amazons* and *the Tank*) and compete on Botzone (https://www.botzone.org.cn/). Also design an interface for humans to play *the Amazons* with one another or against an AI player.

Programming Skills

- **Programming Languages:** Python, C/C++, MATLAB, Verilog HDL
- **Machine Learning Frameworks:** PyTorch, TensorFlow, Keras