Junrong Huang

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EDUCATION BACKGROUND

Carnegie Mellon University, Pittsburgh, PA **08/2016-12/2017**

M.S. Materials Science and Engineering **Advisor:** Professor Elizabeth A. Holm **GPA:** 3.92/4.0

Project Topic: Exploring Microstructures Using Computer Vision and Machine Learning

Zhejiang University, Hangzhou, P.R. China **09/2012-07/2016**

B.E. Materials Science and Engineering **School of Engineering** **GPA:** 3.61/4.0

RESEARCH EXPERIENCE

- **Inorganic Materials Research Institute, Zhejiang University** **07/2015-08/2015**
  - Multiferroic Properties of Barium Hexaferrite *Supervised by Prof. Piyi Du, Zhejiang University*
- **Bachelor's degree Research Project in State Key Laboratory of Silicon Materials** **03/2016-05/2016**
  - Preparation of Porous Silicon *Supervised by Prof. Lei Wang, Zhejiang University*
- **Department of Materials Science & Engineering, Carnegie Mellon University** **09/2016-12/2017**
  - Data Visualization Tools for Microstructure Discovery in ASM Microstructure Library

WORK EXPERIENCE

- **KooLab, Hangzhou Manycore Tech Co., Ltd.** **07/2018-present**
  - Research member of ZJU-Kujiale Joint Lab of CG&AI
    - Material BRDF presentation mappings among different renderer.
      In order to exchange material seamlessly among between renderer and applications, we proposed a appearance-driven method for approximate translation of material BRDFs
      Result: Built a system for converting v-ray BRDFVRayMtl into standard PBR material; more than 30 million materials in product environment have been processed.
    - High Dimensional Neural Graphics Primitives for NeRF Applications (in process, targeting Sig'23)
      Given high degree of freedom representation of 3D scene, including light properties, complicated material BRDF, search a NeRF representation for interactive rendering.
  - Engineer Director of Web Rendering team
    - Lead an R&D engineering team to develop a top-class real-time render engine based on the SOTA techniques with WebGL and push forward it to the online product.
    - Tech owner of Real-time Material Editor, Interior Scene Viewer, Modelo KooRender Viewer, KooViewer and KooShot.

EMPLOYMENT

- Department of Mechanical Engineering, Carnegie Mellon University --- Teaching Assistant **09/2017-12/2017**
- Hangzhou Manycore Tech Co., Ltd. --- Senior Algorithm Engineer, Manager **07/2018-present**

PUBLICATIONS

- **Huang, J.**, Wang, A., Wang, G., Liu, L., & Huang, S. (2016). Quality of Irrigated Water with Nanometer Pottery Tray Treatment and Its Effects on Seed Soaking. Rice Science, 23(2), 88-95. https://doi.org/10.1016/j.rsci.2016.02.003
- Li, L., **Huang, J.**, Sun, L., Liu, L., Wang, L., Hou, Y., Wang, A., Wang, G., & Huang, S. (2017). The Effects of Nanomaterial Treated Water on the Pathogens of Rice Diseases and Fungicides. Nanoscience and Nanotechnology Letters, 9(6), 957-963. https://doi.org/10.1166/nnl.2017.2415
- **Huang, J.**, DeCost, B., & Holm, E. A. (2017). Data visualization tools for microstructure discovery in the ASM microstructure library [Student Poster Section]. Pittsburgh, PA, Material Science and Technology.

PATENTS

- **Huang, J.**, Zheng, J., & Tang, R. (2019). Conversion method, device and system of PBR real-time rendering material and rendering method (China Patent No. CN201910796552.0). C. N. I. P. Administration
- **Huang, J.,** Liu, J., & Tang, R. (2021) Modeling system of PBR Material based on real-time rendering (China Patent No. CN20210948988.4). C. N. I. P. Administration

TECHNICAL SKILLS

Machine Learning, Computer Vision, Python, NodeJS, LaTeX, WebGL, OpenCV, TypeScript