**Faculty Profile: Zhaoyang Wang**

Associate Professor

Department: Mechanical Engineering

School: School of Engineering

Email: [wangz@cua.edu](mailto:wangz@cua.edu)

Phone: 202-319-6703

Education: Ph.D., Mechanical Engineering, University of Maryland, 2003

**Research Interests and Expertise:**

Solid mechanics, experimental techniques, optical methods, micro- and nano-fabrication, computer vision, robotics, artificial intelligence, machine learning, failure and reliability analysis, etc.

**Biography:**

Dr. Zhaoyang Wang holds two doctoral degrees in solid mechanics and microelectronics reliability, respectively. His group is known for their work in the fields of solid mechanics and computer vision for 2D/3D shape, profile, motion, deformation, and vibration measurements at multi-scales in various circumstances. Dr. Wang’s current research focuses on experimental mechanics, computer vision, robotics, and machine learning. In 2009, Dr. Wang demonstrated 3D imaging work at the Smithsonian National Museum of American History. It was featured or reported in CBS morning news, Business Week magazine, The Washington Times, Voice of America news, etc. In 2014, his work on measuring tiny vibrations with a high-speed camera drew considerable attention from social media.

**Five Selected Papers:**

1. H. Nguyen and Z. Wang, “Accurate 3D shape reconstruction from single structured-light image via fringe-to-fringe network,” Photonics, Vol. 8, No. 11, 459, 2021.
2. H. Nguyen, T. Tran, Y. Wang, and Z. Wang, “Three-dimensional shape reconstruction from single-shot speckle image using deep convolutional neural networks,” Optics and Lasers in Engineering, Vol. 143, 106639, 2021.
3. H. Nguyen, Y. Wang, and Z. Wang, “Single-shot 3D shape reconstruction using structured light and deep convolutional neural networks,” Sensors, Vol. 20, 3718, 2020.
4. Z. Wang, H. Kieu, H. Nguyen, and M. Le, “Digital image correlation in experimental mechanics and image registration in computer vision: similarities, differences and complements,” Optics and Lasers in Engineering, Vol. 65, No. 1, 18-27, 2015.
5. H. Nguyen, D. Nguyen, Z. Wang, H. Kieu, and M. Le, “Real-time, high-accuracy 3D imaging and shape measurement,” Applied Optics, Vol. 54, No. 1, A9-A17, 2015.

**Professional Activities:**

* Secretary, Co-chair of the Electronic Packaging Technical Division, SEM. 2005-2012.
* Organizing and/or technical committee member for a few international conferences. 2004-present
* Guest editor, Special issue on Artificial Intelligence in Computer vision: Methods and Applications, Sensors, 2022.
* Founder: www.opticist.org, 2009-2019.