

Yuntian Wang

📍 Los Angeles, CA, USA ✉ yuntianwww@ucla.edu ☎ 310 903 0381 🌐 yourwebsite.com

Education

University of California, Los Angeles, California, USA

Sep 2023 – Present

Ph.D. in Electrical and Computer Engineering

- GPA: 4.0/4.0
- **Advisor** Aydogan Ozcan

Southern University of Science and Technology, Shenzhen, Guangdong, China

Sep 2019 – Jun 2023

Bachelor in Electrical and Electronics Engineering

- GPA: 3.89/4.0
- **Advisor** Perry Ping Shum

Honors and Awards

Departmental Fellowship, University of California, Los Angeles

2023-2025

Top 10 Undergraduate Student in Engineering School, University of Science and Technology, Shenzhen

2023

Research Experience

Deep Learning based Diffractive Optics Optimization

Los Angeles, CA

Advisor: Prof. Aydogan Ozcan

Sep 2023 – Present

- Developed a diffractive surface-based pipeline for universal optical waveguide design, which can be streamed down to various tasks such as redirecting, filtering, splitting, and polarization maintaining.
- Designed a diffractive surface system capable of selectively transmitting different classes of images based on the polarization. Bringing innovative methods for privacy protection.

Structure Health Monitoring using Diffractive Processors

Los Angeles, CA

Advisor: Prof. Aydogan Ozcan

Jan 2024 – Present

- Designed a hybrid (optical plus digital) system utilizing deep learning to encode vibration spectrum of a building optically and decode by digital network, providing fast and high accuracy structure health monitoring solutions.

Optical Diffusion-based Generative Models

Los Angeles, CA

Advisor: Prof. Aydogan Ozcan

Dec 2024 – Jul 2025

- Involved in building an optical generative model capable of generative multiple classes of images including simple dataset to Van Gogh style artwork. The optical generative model drastically decrease the computational power required for novel image generation.

Publications

Optimizing Structured Surfaces for Diffractive Waveguides

Jun 2025

Nature Communication [10.1038/s41467-025-60626-3](https://doi.org/10.1038/s41467-025-60626-3) [🔗](#)

Yuntian Wang, Yuhang Li, Tianyi Gan, Kun Liao, Mona Jarrahi, Aydogan Ozcan

Structural Vibration Monitoring with Diffractive Optical Processors

Jun 2025

Arxiv Preprint [10.48550/arXiv.2506.03317](https://arxiv.org/abs/2506.03317) [🔗](#)

Yuntian Wang, Zafer Yilmaz, Yuhang Li, Edward Liu, Eric Ahlberg, Farid Ghahari, Ertugrul Taciroglu, Aydogan Ozcan

Optical Generative Models

Oct 2024

Arxiv Preprint [10.48550/arXiv.2410.17970](https://arxiv.org/abs/2410.17970) [🔗](#)

Shiqi Chen, Yuhang Li, **Yuntian Wang**, Hanlong Chen, Aydogan Ozcan

Multifunctional Electronic Textiles by Direct 3D Printing of Stretchable Conductive Fibers

Mar 2023

Advanced Electronics Materials [10.1002/aelm.202201194](https://doi.org/10.1002/aelm.202201194) [🔗](#)

Yuntian Wang, Zhixun Wang, Zhe Wang, Ting Xiong, Perry Ping Shum, Lei Wei

Conferences

Deep learning-designed diffractive waveguides for multifunctional light control and scalable integration (Oral)

Aug 2025 SPIE O+P

Diffractive Optical Waveguides (Oral)

Oct 2025 Fio

Diffractive Processors for Structural Vibration Monitoring (Poster)

Oct 2025 Fio

Skills

Coding Languages: Python, MATLAB, Java, C for embedding system.

Machine Learning Frameworks: PyTorch, Tensorflow, JAX

CAD Tools: Zemax, Solidworks (CSWA certificant), AutoCAD

Language: Native in Chinese, Fluent in English