

# Stanford

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## Mingkun Chen

- Ph.D. Student in Electrical Engineering, admitted Autumn 2018
- Ph.D. Minor, Computer Science

### Publications

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#### PUBLICATIONS

- **Reparameterization Approach to Gradient-Based Inverse Design of Three-Dimensional Nanophotonic Devices** *ACS PHOTONICS*  
Gershnel, E., Chen, M., Mao, C., Wang, E. W., Lalanne, P., Fan, J. A.  
2022
- **Algorithm-Driven Paradigms for Freeform Optical Engineering** *ACS PHOTONICS*  
Fan, J. A., Chen, M., Jiang, J.  
2022; 9 (9): 2860-2871
- **High Speed Simulation and Freeform Optimization of Nanophotonic Devices with Physics-Augmented Deep Learning** *ACS PHOTONICS*  
Chen, M., Lupoiu, R., Mao, C., Huang, D., Jiang, J., Lalanne, P., Fan, J. A.  
2022
- **Algorithm-Driven Paradigms for Freeform Optical Engineering** *ACS PHOTONICS*  
Chen, M., Jiang, J., Fan, J. A.  
2022
- **WaveY-Net: Physics-Augmented Deep Learning for High-Speed Electromagnetic Simulation and Optimization**  
Chen, M., Lupoiu, R., Mao, C., Huang, D., Jiang, J., Lalanne, P., Fan, J. A., Chang-Hasnain, C. J., Fan, J. A., Zhou, W.  
SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Deep neural networks for the evaluation and design of photonic devices** *NATURE REVIEWS MATERIALS*  
Jiang, J., Chen, M., Fan, J. A.  
2020
- **Design Space Reparameterization Enforces Hard Geometric Constraints in Inverse-Designed Nanophotonic Devices** *ACS PHOTONICS*  
Chen, M., Jiang, J., Fan, J. A.  
2020; 7 (11): 3141–51
- **Reparameterization to Enforce Constraints in the Inverse Design of Metasurfaces**  
Chen, M., Jiang, J., Fan, J. A., IEEE  
IEEE.2020