Brandon Yushan Feng

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brandonyfeng.github.io

Education

2019–2023 **Ph.D. in Computer Science**, *University of Maryland*.

2018–2019 **M.S. in Statistics**, *University of Virginia*.

2015–2018 **B.A. in Computer Science and Statistics**, *University of Virginia*.

Research Interests

My research interest centers around computational imaging, mid-level vision, and computational photography. My goal is to extend the boundary of visible reality for humans, designing physics-inspired machine learning algorithms that augment and unlock human abilities to perceive and create information.

Publications

Science Advances **NeuWS: Neural Wavefront Shaping for Guidestar-Free Imaging Through Static and Dynamic Scattering Media.**
B. Y. Feng*, H. Guo*, M. Xie, V. Boominathan, M. K. Sharma, A. Veeraraghavan, C. A. Metzler.
Science Advances, 2023.

SIGGRAPH Asia 2022 **VIINTER: View Interpolation With Implicit Neural Representations of Images.**
B. Y. Feng, S. Jabbireddy, A. Varshney.
SIGGRAPH Asia 2022.

ECCV 2022 **PRIF: Primary Ray-based Implicit Function.**
B. Y. Feng, Y. Zhang, D. Tang, R. Du, A. Varshney.
European Conference on Computer Vision (ECCV) 2022.

IEEE TVCG **Neural Subspaces for Light Fields**.
B. Y. Feng, A. Varshney.
IEEE Transactions on Visualization and Computer Graphics, 2022.

IEEE JSAIT **TurbuGAN: An Adversarial Learning Approach to Spatially-Varying Multi-frame Blind Deconvolution with Applications to Imaging Through Turbulence.**
B. Y. Feng*, M. Xie*, C. A. Metzler.
IEEE Journal on Selected Areas in Information Theory, 2022.

ICCV 2021 **SIGNET: Efficient Neural Representation for Light Fields**.
B. Y. Feng, A. Varshney.
International Conference on Computer Vision (ICCV) 2021. (Oral - Top 3%)

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Protein Science **Benchmarking AlphaFold for Protein Complex Modeling Reveals Accuracy Determinants**.
R. Yin, B. Y. Feng, A. Varshney, R. G. Pierce.
Protein Science, 31 (8).

UIST 2021 **GazeChat: Enhancing Virtual Conferences with Gaze-aware 3D Photos**.
Z. He, K. Wang, B. Y. Feng, R. Du, K. Perlin.
ACM Symposium on User Interface Software and Technology (UIST) 2021.

3DV 2020 **Deep Depth Estimation on 360° Images with a Double Quaternion Loss**.
B. Y. Feng, W. Yao, Z. Liu, A. Varshney.
International Conference on 3D Vision (3DV) 2020.

ISBI 2019 **Prostate Segmentation from 3D MRI Using a Two-stage Model and Variable-input Based Uncertainty Measure**.
H. Pan, B. Y. Feng, C. Meyer, X. Feng.
2019 IEEE 16th International Symposium on Biomedical Imaging (ISBI) 2019.

ISBI 2019 **A Self-adaptive Network for Multiple Sclerosis Lesion Segmentation from Multi-contrast MRI with Various Imaging Sequences**.
B. Y. Feng, H. Pan, C. Meyer, X. Feng.
2019 IEEE 16th International Symposium on Biomedical Imaging (ISBI) 2019.

Talks

2022/12/16 **Massachusetts Institute of Technology** Scene Representation Group.
Designing Neural Fields of Rays and Pixels.
Host: Dr. Vincent Sitzmann

2022/10/21 **Rice University** Computational Imaging Lab.
Implicit Neural Representations for Graphics and Vision.
Host: Dr. Ashok Veeraraghavan and Weiyun Jiang

2022/09/23 **University of Maryland** Vision and Learning Lab.
Implicit Neural Representations for Graphics and Vision.
Host: Dr. Jia-Bin Huang

2022/08/30 **University of Texas at Austin** Visual Informatics Group.
Efficient Implicit Neural Representation for 3D Shapes.
Host: Dr. Zhangyang (Atlas) Wang and Zhiwen Fan

2022/07/15 **Optica Imaging Congress** COSI.
Adversarial Sensing for Sub-Diffraction Imaging.

2022/06/07 **Google** AR.
Primary Ray-based Implicit Function.
Host: Dr. Yinda Zhang

Service

Journal Reviewer
IEEE Transactions on Pattern Analysis and Machine Intelligence
IEEE Transactions on Image Processing
IEEE Transactions on Circuits and Systems for Video Technology

Conference Reviewer
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) - 2022
Neural Information Processing Systems (NeurIPS) - 2022
International Conference on Machine Learning (ICML) - 2022

University Service
Organizer, University of Maryland Computer Vision Seminar - 2022
Organizer, Computational Imaging Workshop at Technica (largest hackathon for underrepresented genders) - 2022
Reviewer, University of Maryland Computer Science Graduate Program Application - 2020, 2021, 2022

Work Experience

2022-2023 **Research Scientist Intern**, *Google*, San Francisco, CA.

2019-2022 **Graduate Research Assistant**, *University of Maryland*, College Park, MD.

2018-2019 **Research Intern**, *Springbok*, Charlottesville, VA.