Luocheng Huang

Graduate Researcher

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Education

Sep 2019 – Ongoing	**University of Washington, Seattle** *Ph.D. in Electrical and Computer Engineering*
Jun 2017 – Sep 2019	**University of Washington, Seattle** *Master of Science in Materials Science and Engineering*
Sep 2013 – Jun 2017	**University of Washington, Seattle** *Bachelor of Science in Materials Science and Engineering*

Experience

Oct 2017 – Jun 2018	**University of Washington – DIRECT Program** *Trainee* • Developed Thermoelectric Materials Artifical Neural Network (TEMANN), a python package that can be used to predict Seebeck coefficients for novel materials. Link to Github • Completed courses on various topics concerning artificial neural networks including architectures, hyperparameter tuning, regularization, optimization, etc.
Jul 2018 – Jun 2019	**American Institutional Assets, Seattle** *Intern* • Successfully developed an organic liquid fertilizerthat has anti-bacterial, anti-fungal, and anti-parasitic properties. Also drip irrigation compatible.

Leadership and Teaching Experience

Sep 2019 – Jun 2021	**University of Washington, Seattle** *Teaching assistant* • Held quiz sections and office hours for EE215 and EE299.
Sep 2016 – Jun 2017	**American Ceramic Society – Keramos UW Chapter** *President* • Organized weekly meetings, and coordinated out reach events.

Technical Skills

Programming	Python, MATLAB, Java, JavaScript, HTML/CSS, LaTeX
Frameworks	Proxmox, HAProxy, Tensorflow
Softwares	Zemax OpticStudio, SolidWorks
Fabrication	ABM Semi-Auto aligner, Heidelberg DWL66$^+$, spin coater, Profilometer (DektakXT), EBeam Lithography (JBX6300FS), ellipsometer (Woollam Alpha SE), SEM, Optical Microscopy, Quorum sputter coater, E-beam Evaporator (SEC-600), ICP-Fluorine etcher, Evatec LLS EVO Sputter System, Barrel Asher, SPTS PECVD, Disco Wafer Dicer.

Honors

2016 **Livingston Wernecke Memorial Scholarship, UW**
James I. Mueller Scholarship, UW

2014 **Composers Guild 44th Annual Composition Contest, Utah**
Utah Best of Young Composer & 2nd Prize & Best of Age Group, Utah

2013 **National Scholastic Art & Writing Silver Medalist, New York**
Utah State Math Contest 1st Team Award & Finalist, Utah

Publications

2021 [1] E. Bayati, A. Wolfram, S. Colburn, **L. Huang**, and A. Majumdar. "Design of achromatic augmented reality visors based on composite metasurfaces". In: *Applied Optics* 60.4 (2021), pp. 844–850.

[2] **L. Huang**, Z. Coppens, K. Hallman, Z. Han, K. F. Böhringer, N. Akozbek, A. Raman, and A. Majumdar. "Long wavelength infrared imaging under ambient thermal radiation via an all-silicon metalens". In: *Optical Materials Express* 11.9 (2021), pp. 2907–2914.

[3] **L. Huang**, J. Whitehead, S. Colburn, and A. Majumdar. "Extended Depth of Focus Metalenses for Achromatic Computational Imaging". In: *CLEO: Science and Innovations*. Optical Society of America. 2021, STh4O–2.

[4] E. Tseng, S. Colburn, J. Whitehead, **L. Huang**, S.-H. Baek, A. Majumdar, and F. Heide. "Neural Nano-Optics for High-quality Thin Lens Imaging". In: *arXiv preprint arXiv:2102.11579* (2021).

[5] J. E. Whitehead, A. Zhan, S. Colburn, **L. Huang**, and A. Majumdar. "Fast Extended Depth of Focus Meta-Optics for Varifocal Functionality". In: *arXiv preprint arXiv:2106.15807* (2021).

2020 [6] **L. Huang**, J. Whitehead, S. Colburn, and A. Majumdar. "Design and analysis of extended depth of focus metalenses for achromatic computational imaging". In: *Photonics Research* 8.10 (2020), pp. 1613–1623.

2018 [7] S. Colburn, A. Zhan, E. Bayati, J. Whitehead, A. Ryou, **L. Huang**, and A. Majumdar. "Broadband transparent and CMOS-compatible flat optics with silicon nitride metasurfaces". In: *Optical Materials Express* 8.8 (2018), pp. 2330–2344.