

# Mark K. Wang (王凯章)

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Center for Water and the Environment, J.J. Pickle Research Campus, Austin, TX

## EDUCATION

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<b>The University of Texas at Austin</b> <i>Doctor of Philosophy</i>   Civil Engineering <i>Master of Science</i>   Environmental and Water Resources Engineering	Austin, TX <i>Expected May 2025</i> <i>May 2022</i>
<b>Columbia University</b> <i>Bachelor of Science</i>   Civil Engineering   Water Resources Concentration	New York, NY <i>May 2016</i>
<b>Franklin &amp; Marshall College</b> <i>Bachelor of Arts</i>   Cognitive Science   Music Minor	Lancaster, PA <i>May 2016</i>

## RESEARCH EXPERIENCE

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<b>National Weather Service   NOAA   CUAHSI</b> <i>2023 Summer Institute Course Coordinator</i> <ul style="list-style-type: none"><li>Supported 23 fellows researching flood prediction at the National Water Center</li><li>Compiled and edited final report documenting six group projects</li><li>Planned institute's seven week timeline with faculty theme leaders and CUAHSI staff</li></ul> <i>2022 Summer Institute Fellow</i> <ul style="list-style-type: none"><li>Developed a GIS method for coupling riverine &amp; coastal inundation</li></ul>	Tuscaloosa, AL <i>June 2023 – July 2023</i> <i>June 2022 – July 2022</i>
<b>Fulbright Program, U.S. Department of State</b> <i>Research Grantee</i> <ul style="list-style-type: none"><li>Studied low-impact development and stormwater management policy in the Pearl River Delta</li></ul>	Zhuhai & Shenzhen, China <i>June 2019 – Feb 2020</i>

## PROFESSIONAL EXPERIENCE

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<b>Water Utility, City of Austin</b> <i>Systems Planning Engineering Intern</i> <ul style="list-style-type: none"><li>Automated storm event and sewer peak flow analysis with Python scripts</li><li>Maintained GIS databases for long-range water infrastructure planning</li></ul>	Austin, TX <i>Mar 2020 – Sep 2020</i>
<b>Mease Engineering, P.C.</b> <i>Civil Engineer</i> <ul style="list-style-type: none"><li>Performed hydrologic site analyses under pre- and post-development conditions</li><li>Designed stormwater management systems to control water quality and flow rate</li></ul>	Quakertown, PA <i>Oct 2017 – June 2019</i>
<b>NYC Department of Environmental Protection</b> <i>Assistant Civil Engineer</i> <ul style="list-style-type: none"><li>Managed green stormwater infrastructure projects in public parks and streets</li><li>Developed and reviewed construction drawings and contract specifications</li></ul>	New York, NY <i>June 2016 – Oct 2017</i>

## PUBLICATIONS & PRESENTATIONS

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- Wang, Mark**, Passalacqua, P., Cai, S., & Dawson, C. (2024). c-HAND: Near Real-Time Coastal Flood Mapping. *Frontiers in Water*, 6, 1329109. <https://doi.org/10.3389/frwa.2024.1329109>
- Wang, Mark**, Passalacqua, P., & Moftakhari, H. (2023). Quantifying Compound Flooding in Southeast Texas: A Novel Approach for Assessing Impacts on Communities and Infrastructure. *2023 AGU Fall Meeting*, Abstract NH23D-0744
- Abdelkader, M., **Wang, Mark**, Ghanghas, A., Ferreira, C., & Mandli, K. T. (2022). QuiCFIM, a Quick GIS-Based Combined Flood Inundation Mapping Framework. *2022 AGU Fall Meeting*, Abstract H45I-1481

5. Passalacqua, P., Preisser, M., **Wang, Mark**, Bixler, P., Hooks, A., Hofmann, J., Haselbach, L., Moftakhari, H., Evans, H., Thies, C., & Maidment, D. (2022). Preparing for Future Floods: Leveraging Remotely Sensed Data, Modeling, and Social Science Information in a Multilayer Network Approach. *2022 AGU Fall Meeting*, Abstract H46D–01
4. Shetty, N., **Wang, Mark**, Elliott, R., & Culligan, P. (2022). Examining How a Smart Rainwater Harvesting System Connected to a Green Roof Can Improve Urban Stormwater Management. *Water*, *14*(14)
3. Shetty, N. H., Elliott, R. M., **Wang, Mark**, Palmer, M. I., & Culligan, P. J. (2022). Comparing the Hydrological Performance of an Irrigated Native Vegetation Green Roof with a Conventional *Sedum* spp. Green Roof in New York City. *PLOS One*, *17*(4), e0266593
2. Shetty, N. H., Hu, R., Mailloux, B. J., Hsueh, D. Y., McGillis, W. R., **Wang, Mark**, Chandran, K., & Culligan, P. J. (2019). Studying the effect of bioswales on nutrient pollution in urban combined sewer systems. *Science of The Total Environment*, *665*, 944–958
1. Shetty, N. H., & **Wang, Mark**. (2018). Performance of a “Next Generation” Green Roof with Irrigation and Smart Detention. *2018 EWRI International Low Impact Development Conference*, Abstract 437268

## GRANTS & AWARDS

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### **Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI)**

- Hydroinformatics Innovation Fellowship 2024

### **The University of Texas at Austin**

- John E. Kasch Endowed Graduate Fellowship in Engineering 2020 – Present
- Dean’s Prestigious Fellowship Supplement 2020 – Present

### **National Science Foundation**

- Graduate Research Fellowship 2020 – 2023

### **Fulbright Program, U.S. Department of State**

- Study/Research Award 2019 – 2020
- Critical Language Enhancement Award 2019

### **Franklin & Marshall College**

- *Magna cum laude* | Phi Beta Kappa 2016
- G. Kenneth Kohlmaier Family Scholarship 2011 – 2014
- C. Richard Plank Scholarship 2011 – 2014

## SKILLS & LICENSES

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### **Programming Languages**

- **Advanced:** Python, MATLAB | **Intermediate:** Unix shell, T<sub>E</sub>X, Julia | **Beginner:** Ruby, JavaScript, C

### **Programming Tools**

- Unix, Git, NumPy, Matplotlib, Pandas, SciPy, scikit-learn, PyTorch, Slurm (HPC), OOP paradigm

### **GIS & Engineering Tools**

- ArcGIS Pro, QGIS, GDAL, GeoPandas, Rasterio, GRASS GIS, AutoCAD, SWMM, HEC-RAS

### **Natural Languages**

- **Native:** English | **Working proficiency:** Mandarin Chinese (spoken and written)

### **Licenses**

- Engineer-in-Training (Pennsylvania License No. ET023499)

## OPEN ONLINE COURSES

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### **Coursera**

- Machine Learning with Python [link to credential]
- Computer Vision and Image Processing Essentials [link to credential]
- Deep Learning Essentials with Keras [link to credential]