Jayaram Hariharan

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Education

- **University of Texas at Austin** — Austin, TX
  PhD in Civil Engineering — *May 2019 – May 2022 (Expected)*
  M.S. in Civil Engineering — *Aug. 2017 – May 2019*
  - **Thesis**: Quantifying the Influence of Surface Processes on Subsurface Geometry in Deltaic Environments
- **University of Maryland, College Park** — College Park, MD
  B.S. in Civil and Environmental Engineering — *Aug. 2011 – Dec. 2014*

Experience

- **University of Texas at Austin** — Austin, TX
  Graduate Research Assistant — *Aug. 2017 - Present*
  - **Numerical Modeling**: Simulations of river delta evolution using the reduced-complexity DeltaRCM model. Worked to extend this Matlab code to Python and make it more modular/extendable.
  - **Surface-Subsurface Translation**: Analysis of the numerical model outputs to better understand what subsurface properties can be inferred from surface observations. End goal is to help constrain groundwater models for improved aquifer contamination forecasting.

  Graduate Teaching Assistant — *Fall 2018, 2019, Spring and Fall 2020*
  - **Substitute Lecturer**: Substitute lecturer for the undergraduate hydrology course for two weeks in the Fall 2019 semester.
  - **Teaching Assistant**: Teaching assistant for the Spring 2020 undergraduate hydraulics course. Translated laboratory activities to online assignments with explanatory videos in response to COVID-19.
  - **Grader**: Created and graded homework assignments for the 2018 and 2019 Fall semester hydrology course, and the Fall 2020 hydraulics course.
- **Gutschick, Little & Weber P.A.** — Burtonsville, MD
  Civil Engineer — *Jan. 2015 - Jul. 2017*
  - **Site Design and Approval**: Lead the civil engineering site design and approval processes for two commercial site development plans in Howard Count, MD (SDP-15-068 & SDP-17-042)
  - **Expert Testimony**: Prepared material and provided expert testimony at public forums, Design Advisory Panel (DAP) meetings, and Planning Board hearings.
  - **Civil Design**: Designed stormwater management facilities; storm drain, water, and sewer systems; site grades; sidewalk layouts; ADA areas; sediment control practices; culverts

Publications

- Miltenberger, A.M, T. Mukerji, **J. Hariharan**, P. Passalacqua, E. Nesvold (submitted), A Graph-Theoretic Monte Carlo Framework for Comparing Delta Morphology, Morphodynamics, and Stratigraphy in Numerical Models and Physical Experiments, Mathematical Geosciences.
- **Hariharan, J.**, K. Wright, and P. Passalacqua (2020). dorado: A Python package for simulating passive particle transport in shallow-water flows, Journal of Open Source Software, 5(54), 2585, https://doi.org/10.21105/joss.02585.

Academic and Volunteer Activities

- **Academic Activities**: Graduate and Industry Networking (GAIN) committee member (2018)
- **Volunteer Activities**: Weekly volunteer at St. David's Hospital, Austin, TX (3 hrs/wk, Apr. 2019 – Apr. 2020)

Skills, Awards, and Licenses

- **Software Skills**: Proficient with MathWorks MATLAB, Python, LaTeX, Autodesk AutoCAD Civil 3D, HEC-RAS
- **Awards**: Earnest and Agnes Gloyna Endowed Presidential Scholarship in Environmental and Water Resources Engineering (2019); Walter L. and Reta Mae Moore Graduate Fellowship in Water Resources (2017); University of Maryland President's Scholarship (2011-2014)
- **Licenses**: State of Maryland Engineer in Training, Licence #46507