

# Kyle Anthony Shepherd

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<http://www.kyleanthony/shepherd.com/> • Visit this site designed by me for more information

## EDUCATION

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**PE Civil: Construction**, May 2023, <https://account.ncees.org/rn/1640086-1588426-a546f45>

**PhD Candidate in Civil Engineering**, 2016-2022

Rice University, 4.110 GPA (A+ is equal to 4.33)

**Texas Engineer In Training**, EIT #58732 (May 15, 2017)

**Bachelor of Science in Civil Engineering**, May 2016

Rice University, 4.05 GPA (A+ is equal to 4.33), Summa Cum Laude

## WORK EXPERIENCE

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**Graduate Researcher for Dr. Leonardo Dueñas-Osorio** (2019 May – 2022 Nov)

- Developing tensor network algorithms for calculating network reliability
- Collecting and analyzing infrastructure data (traffic speed, power outages, Houston 311 calls)
- Extending network resilience algorithms to quantum computers
- Wrote storage cell code for brays bayou 2D flood modeling

**Pacific Northwest National Laboratory, Internship** (2022 June - July)

- Literature review on Critical Infrastructure Networks

**Oak Ridge National Laboratory, Full Time Fellowship Internship** (2018 May – August)

- Investigated anomalous magnetic behavior of multi-oxide materials
- Operated and automated load frames; Developed measurement protocols

**Graduate Researcher for Dr. Rouzbeh Shahsavari** (2016 May – 2019 May)

- Synthesized nanomaterials, such as graphene oxide; Served as a Laboratory Safety Contact
- Created and programmed hardware; Performed feature analysis on molecular modeling data
- Teaching assistant for “Reinforced Concrete Buildings”

**Undergraduate Researcher for Dr. Leonardo Dueñas-Osorio** (2014 September – 2016 May)

- Collected GIS data; Maintained Houston Storm Risk Calculator website

**Finrock Design, Manufacture, Construct Inc., Full Time Paid Intern** (2014 May – August)

- Performed field work; Submitted a review on workplace safety and workplace efficiency

**Charles Clayton Construction, Full Time Paid Intern** (2013 May – August)

## HONORS AND AWARDS

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FY 2016 Integrated University Program Fellowship – Department of Energy (2016)

Engineers Without Borders–USA Premier Project Award, Lucidia Mantilla Project (2014)

## PUBLICATIONS

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- Shepherd, K., L. Dueñas-Osorio, “Tensor Network Contraction For Network Reliability Estimates”, The 13th International Conference on Structural Safety and Reliability, 2021.
- Image credit for “How to Evacuate Cities before Dangerous Hurricanes”, Scientific American, 2018
- Applied Technology Council, “Critical Assessment of Lifeline System Performance: Understanding Societal Needs in Disaster Recovery”, National Institute of Standards and Technology, 2016.
  - Co-Author of Chapter 8 and Appendix E: Interdependent Infrastructure Systems

## VOLUNTEER EXPERIENCE AND ACTIVITIES

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**Engineers Without Borders** August 2012 – March 2020

- Completed 2 projects while undergrad, mentored students while in graduate school
- Provided guidance for engineering systems, such as foundations and pipeline design

**Houston Habitat For Humanity** August 2016 – March 2020

**Hurricane Harvey Recovery** [Bayou Action Street Health, West Street Recovery] Fall 2017 – 2019