SEAN FARRELL
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RESEARCH INTEREST

Joint communication and distributive network imaging systems
Computational Imaging, signal processing, wireless networks, millimeter wave imaging

EDUCATION

2019 – 2026 **RICE UNIVERSITY** **HOUSTON, TX**
M.S./Ph.D. in Electrical and Computer Engineering, May 2026 (Expected)
GPA: 3.95
Research Advisor: Dr. Ashok Veeraraghavan

2015 – 2019 **TRINITY UNIVERSITY** **SAN ANTONIO, TX**
B.S. in Engineering with a focus in Electrical Engineering, *magna cum laude*
Minor in Mathematics
GPA: 3.74
Research Advisors: Dr. Peter Kelly-Zion and Dr. Dennis Ugolini

WORK EXPERIENCE

2019 – Present **RICE UNIVERSITY** **HOUSTON, TX**
Research Assistant
- Developing and testing foundational ideas in distributive wireless network imaging using the next generation 5G communication networks.
- Applying a Background Oriented Schlieren (BOS) imaging technique to investigate the air flow dynamics arising from orchestra musicians and opera singers; study evaluates performance environment safety in light of the SARS-CoV-2 virus pandemic.

2016 – 2018 **TRINITY UNIVERSITY** **SAN ANTONIO, TX**
Electrical Engineering and Fluid Dynamics Undergraduate Research Assistant (2017 – 2018)
- Designed stochastic filtering signal processing method to reduce experimental noise impacts on computed tomography routine used to study the transport mechanisms influencing sessile drop evaporation
- Measured vapor cloud concentrations of ideal and non-ideal hydrocarbon mixtures using infrared spectroscopy and computed tomography techniques

Physics Undergraduate Research Assistant (Summer 2016)
- Engineered LIGO based interferometer physics lab experiment
- Operated an atomic force microscope to measure charge distribution on LIGO optics
- Collaborated with other researchers to automate optical charging vacuum chamber using LabVIEW

PRESENTATIONS

Fall 2018 **AMERICAN PHYSICAL SOCIETY DIVISION OF FLUID DYNAMICS** **ATLANTA, GA**
"Measuring Vapor Concentration and Diffusive Flux Distributions of an Evaporating Drop"

Summer 2018 **TRINITY UNIVERSITY RESEARCH SYMPOSIUM** **SAN ANTONIO, TX**
"Signal Processing to Reduce Effects of Experimental Noise on Drop Evaporation Analysis"

Summer 2017 **TRINITY UNIVERSITY RESEARCH SYMPOSIUM** **SAN ANOTNIO, TX**
"Sessile Drop Evaporation Study: Measurement of Bi-component Vapor Cloud Concentration"

Fall 2016 **GULF COAST UNDERGRADUATE RESEARCH SYMPOSIUM** **HOUSTON, TX**
"LIGO Interferometer for Undergraduate Physics Lab"

Summer 2016 **TRINITY UNIVERSITY RESEARCH SYMPOSIUM** **SAN ANTONIO, TX**
"LIGO Interferometer for Undergraduate Physics Lab"

LEADERSHIP & INVOVLEMENT

2020 – Present **RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU)**, Mentor

2019 – Present **LATINX DOCTORAL DIVERSITY GROUP**, Member

2019 – Present **RICE GRADUATE EDUCATION FOR MINORITIES (RGEM)**, Member

2018 – Present **AMERICAN PHYSICAL SOCIETY (APS)**, Member

2015 – 2019 **TRINITY UNIVERSITY CLUB TENNIS**, Service Chair and Member

2015 – 2019 **TRINITY UNIVERSITY ATHLETIC OFFICE**, Assistant

HONORS & ACHIEVEMENTS

Fall 2018 **NSF AWARD**, #1404269

2017 – 2018 **TRINITY UNIVERSITY DEAN'S LIST**

Spring 2018 **JUNIOR ACADEMIC ACHIEVEMENT AWARD**

Spring 2018 **BEST INVESTIGATION AND ANALYSIS USING STATISITC (BIAS) AWARD**

Spring 2018 **MATHEMATICAL CONTEST IN MODELING (MCM)**

2017 – 2018 **OUTSTANDING SOPHOMORE DESIGN AWARD**

Spring 2017 **AUSTIN MARATHON FINISHER**

Spring 2012 **EASGLE SCOUT AWARD**

ADDITIONAL INFORMATION

Skills: MATLAB, Scala, C, Python, VHDL, BASIC, Eagle, Creo Parametric, Autodesk Inventor, Microsoft Office Suite, Wireless Insite