

# Hashan Fernando

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## Research Interests

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Topological Data Analysis, Epidemiology, Machine Learning, Explainable AI

## Education

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<b>University of Tennessee</b> , Knoxville, TN <b>Ph.D. (Reading) Data Science and Engineering</b> GPA.: 4.00 out of 4. Advisor: Dr. Adam Spannaus	2022 – Present
<b>University of Peradeniya</b> , Sri Lanka <b>M.S. Data Science</b> GPA: 3.75 out of 4.	2020 – 2022
<b>University of Peradeniya</b> , Sri Lanka <b>B.Sc. Statistics and Operations Research</b> GPA: 3.06 out of 4.	2015 – 2018

## Experience

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<b>Graduate Research Assistant</b> <b>Advanced Computing in Health Sciences Section, Oak Ridge National Laboratory</b> , Oak Ridge, TN • Geospatial study of opioid overdose risk in USA: Designing algorithm to identify spatial patterns using Topological Data analysis and Machine Learning	Aug 2022 – Present
<b>Graduate Research Assistant</b> <b>Department of Statistics and Computer Science, University of Peradeniya</b> , Sri Lanka • Developed a smart seal and audio detection system for protecting steel-based cargo using IoT	Dec 2019 – Feb 2022
<b>Data Scientist Intern</b> <b>VizuaMatix</b> , Colombo, Sri Lanka • Developed a machine learning model to predict non-performing customers in a banking system • Developed a route optimization model for food distribution trucks to improve the efficiency and reduce operational costs	Jan 2019 – Jul 2019
<b>Planning Intern</b> <b>MAS Holdings</b> , Biyagama, Sri Lanka • Developed multiple VBA application for planning inventory	Oct 2018 – Jan 2019

## Publications

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- A. Deas, **H. Fernando**, A. Heidi, A. Kapadia, J. Trafton, A. Spannaus, V. Maroulas, "*Identifying Spatiotemporal Patterns in Opioid Vulnerability: Investigating the Links Between Disability, Prescription Opioids and Opioid-Related Mortality*", Preprint, 2024 [pdf]
- **H. Fernando**, A. Spannaus, A. Kapadia, "A Geospatial Study of Opioid Overdose Risk in Diverse Regions", Conference Proceedings for International Population Data Linkage Conference, vol. 9, no. 5, 2024 [pdf]

## Awards

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- Merit Award for MSc in Data Science
- Half Colors, Colors Awarding Ceremony 2017, University of Peradeniya, Sri Lanka

## **Presentations**

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- A Geospatial Study of Opioid Overdose Risk in Washington D.C Metropolitan Area, Interdisciplinary Association for Population Health Science Conference, St. Louis, MO, Sep 2024
- A Geospatial Study of Opioid Overdose Risk in Diverse Regions, International Population Data Linkage Network Conference, Chicago, IL, Sep 2024

## **Technologies**

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**Languages:** C, Java, Python, R

**Technologies:** RStudio, MINITAB, SPSS. Weka, Google Clous IoT, Arduino