Hashan Fernando

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Research Interests

Topological Data Analysis, Epidemiology, Machine Learning, Explainable AI

Education

University of Tennessee, Knoxville, TN   2022 – present
  Ph.D. (Reading) Data Science and Engineering
  GPA.: 4.00 out of 4.
  Advisor: Dr. Adam Spannaus

University of Peradeniya, Sri Lanka   2020 – 2022
  M.S. Data Science
  GPA: 3.75 out of 4.00

University of Peradeniya, Sri Lanka   2015 – 2018
  B.Sc. Statistics and Operations Research
  GPA: 3.06 out of 4.00

Experience

Graduate Research Assistant   Aug 2022 – present
Advanced Computing in Health Sciences Section, **Oak Ridge National Laboratory**, Oak Ridge, TN

- Geospatial study of opioid overdose risk in USA: Designing an algorithm to identify spatial patterns using Topological Data Analysis and Machine Learning

Graduate Research Assistant   Dec 2019 – Feb 2022
Department of Statistics and Computer Science, **University of Peradeniya**, Sri Lanka

- Developed a smart seal and audio detection system for protecting steel-based cargo using IoT

Data Scientist Intern   Jan 2019 – Jul 2019
VizuaMatix, 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

Planning Intern   Oct 2018 – Jan 2019
MAS Holdings, Biyagama, Sri Lanka

- Developed multiple VBA application for planning inventory

Publications

- 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

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

Presentations

- 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

Languages: C, Java, Python, R

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