Overview of Fellows' Activity

Data Science Education Community of Practice

DSECOP Workshop

June 26, 2023

Mohammad Soltanieh-ha

Clinical Assistant Professor

Information Systems Department

Boston University

Introduction

Education: Computational physics (Ph.D.), Northeastern University 2015

Industry experience: Data scientist, Infor 2015 - 2018

APS Topical Group on Data Science (GDS): Founding chair 2018-2021

Teaching (MBA & MS)
- Big data analytics
- Business Analytics Toolbox
- Introduction to Data Analytics

Research
- Computer vision applications in automating cancer diagnosis
- Macroeconomics time series forecasting
- High performance computing

DSECOP

The Data Science Education Community of Practice (DSECOP), a program funded by the APS Innovation Fund and led by the APS Topical Group on Data Science (GDS), is committed to supporting physics educators in integrating data science into their courses.

To achieve this, we organize webinars, workshops, and collaborate with various institutions

DSECOP June 2022 Workshop

DSECOP Fellows

Team: dsecop.org/team

2023 Fellows

Julie Butler

Using machine learning to extend the range of theoretical many-body calculations in regards to infinite matter
Email: butle222@msu.edu
Web: https://juliebutler.blog
Title: PhD Student until August 1; Assistant Professor of Physics from August 1.
Affiliation: Michigan State University until August 1; University of Mount Union from August 1.

Ashley S. Dale

Spin crossover materials for novel low-power memory devices; latent feature extraction for trusted and explainable AI.
Email: daleas@iu.edu
Web: https://daleas0120.github.io
Title: PhD Student
Affiliation: Indiana University–Purdue University Indianapolis

Richard Harry

Developing low/high-frequency sensor devices from multiferroic materials with target applications such as smart-grid power systems, wearable electronics, and tactile interference systems.
Email: rharry3999@tuskegee.edu
Web: https://www.linkedin.com/in/richard-harry-b74a04100/
Title: PhD Student
Affiliation: Tuskegee University

Joseph Dominicus Lap

Using hep-th techniques to understand hot nuclear phenomena
Email: Joseph.Dominicus.Lap@yale.edu
Web: DSECOP Fellows
Title: PhD Student
Affiliation: Yale University

Connor Robertson

Modeling for active nematic fluids and bacterial growth directly from experimental observations via data-driven and machine learning approaches
Email: cjr59@njit.edu
Web: https://cnrrobertson.github.io
Title: PhD Student
Affiliation: New Jersey Institute of Technology

Karan Shah

Machine learning accelerated electronic structure simulations for matter under extreme conditions.
Email: k.shah@hzdr.de
Web: https://karan.sh
Title: PhD Student
Affiliation: Center for Advanced Systems Understanding, Helmholtz-Zentrum Dresden-Rossendorf, Görlitz, Germany

Olivia Young

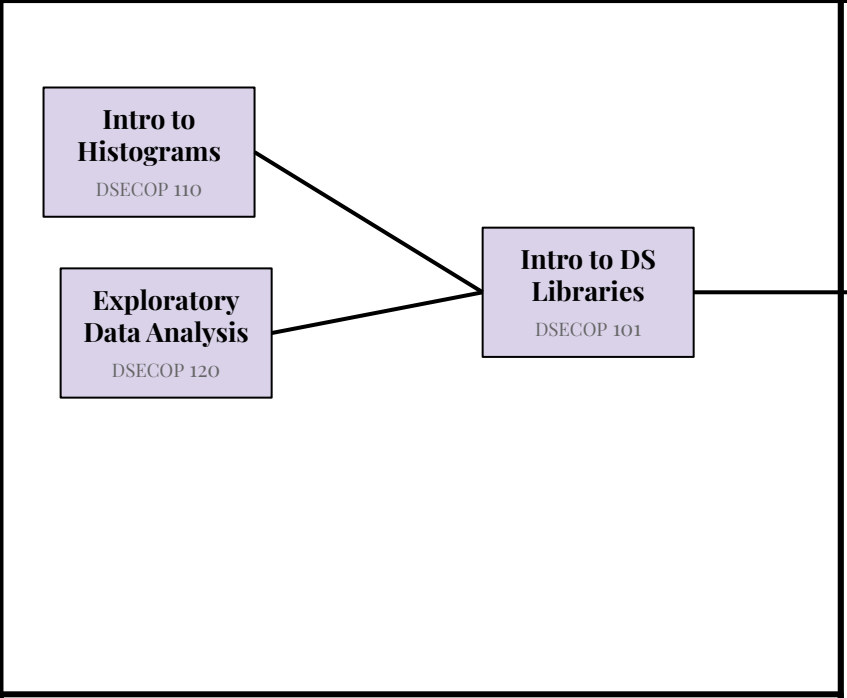
Real-time FPGA and GPU Algorithm Development for Transient Hunting on the Long Wavelength Array
Email: ory3002@rit.edu
Web: https://livsguidetothegalaxy.github.io/
Title: PhD Student
Affiliation: Rochester Institute of Technology

DSECOP: Data Science Education Community of Practice

Preparing students for multiple career paths by offering teaching materials to faculty members who teach undergraduate and graduate physics courses.

GitHub: bit.ly/DSECOP-GitHub

Table of Contents



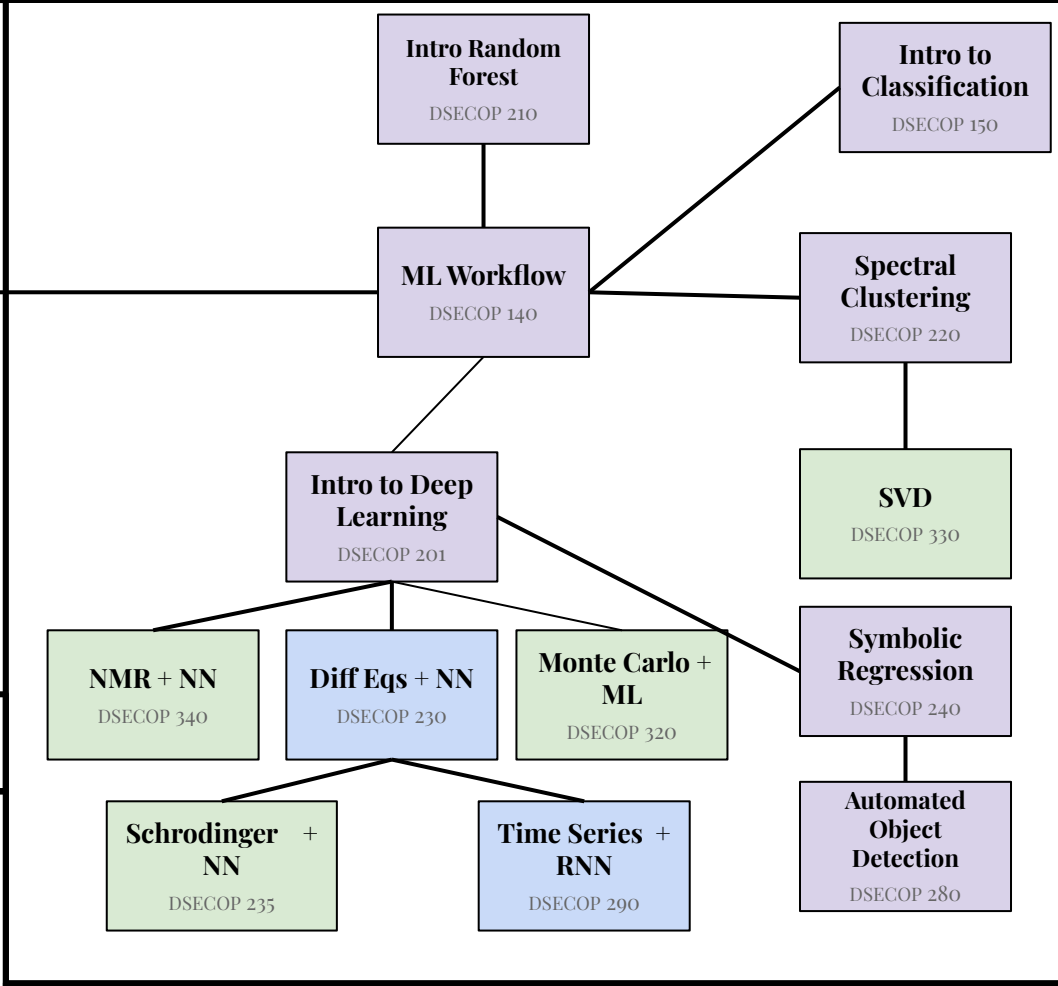
General Data Science Modules

Data Science Level:

- DSECOP 1xx: Beginner
- DSECOP 2xx: Intermediate
- DSECOP 3xx: Advanced

Physics Level:

- Beginner
- Intermediate
- Advanced



Machine Learning Modules

DSECOP Workshop- Fellow Module Feedback

bit.ly/DSECOP-feedback

Thank you!
Comments?