Overview of Fellows' Activity

Data Science Education Community of Practice DSECOP Workshop

June 23, 2022

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 for business
- Business Analytics Toolbox
- Introduction to Data Analytics

Research

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

DSECOP Fellows

Team: dsecop.org/team





Sebastian Atalla

Investigating the use of deep learning in denoising and reconstructing hyperpolarized xenon-129 MRI and xenonenhanced CT

Email: atalla@unc.edu

Web: https://github.com/swatalla

Title: PhD Student

Affiliation: The University of North Carolina

at Chapel Hill



Fatemeh Bagheri

Observations of exoplanets orbiting source stars in microlensing events and the direct detection of light reflection from exoplanets.

Email: bagheri.fateme@gmail.com

Web: DSECOP Fellows
Title: NSF Postdoc

Affiliation: The University of Texas at

Arlington (UTA)



Julie Butler

Machine learning in many-body studies of the nucleus and related nuclear systems

Email: butle222@msu.edu Web: DSECOP Fellows Title: PhD Student

Affiliation: Michigan State University



Champaign

Cunwei Fan

Deep learning methods to analyze leptons from data produced by hadron collider and Monte Carlo simulation from CERN

Email: cfan11@illinois.edu Web: DSECOP Fellows

Title: PhD Student

Affiliation: University of Illinois at Urbana



Radha Mastandrea

Trains neural networks to recognize the physical symmetries of particle collision events and use these symmetries for classification tasks.

Email: rmastand@berkeley.edu
Web: DSECOP Fellows

Title: PhD Student

 ${\it Affiliation: UC\ Berkeley, Lawrence\ Berkeley\ National\ Laboratory}$



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

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.







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- Intro to Deep Learning by Fatima Bagheri
- Learning the Schrodinger Equation by Karan Shah
- NMR Deep Learning by Sebastian Atalla
- Solving Differential Equations with NNs by Julie Butler
- Spectral Clustering by Cunwei Fan

Thank you!

Questions?