HDR DSC: Collaborative Research: Creating and Integrating Data Science Corps to Improve the Quality of Life in Urban Areas

Funded by the National Science Foundation 2019-2023

https://datasciencecorps.umbc.edu

Collaborating Universities: UMBC, Towson University, Bowie State University, University of Baltimore

Project Personnel

- Aryya Gangopadhyay (Information Systems, University of Maryland Baltimore County)
- Jennifer Harrison (Faculty Development Center, University of Maryland Baltimore County)
- Linda Hodges (Faculty Development Center, University of Maryland Baltimore County)
- Anupam Joshi (Computer Science and Electrical Engineering, University of Maryland Baltimore County)
- Seema Iyer (Jacob France Institute , University of Baltimore)
- Michael P. McGuire (Computer and Information Sciences, Towson University)
- Tim Oates (Computer Science and Electrical Engineering, University of Maryland Baltimore County)
- Sanjay Purushotham (Information Systems, University of Maryland Baltimore County)
- Nirmalya Roy (Information Systems, University of Maryland Baltimore County)
- Sharad Sharma (Computer Science, Bowie State University)
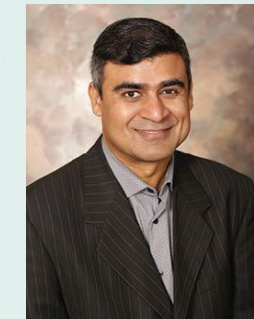
Collaboration Partner:

Baltimore Neighborhood Indicators Alliance (BNIA). Click to see details

Aryya Gangopadhyay (UMBC)

Michael Mcguire (Towson U.)
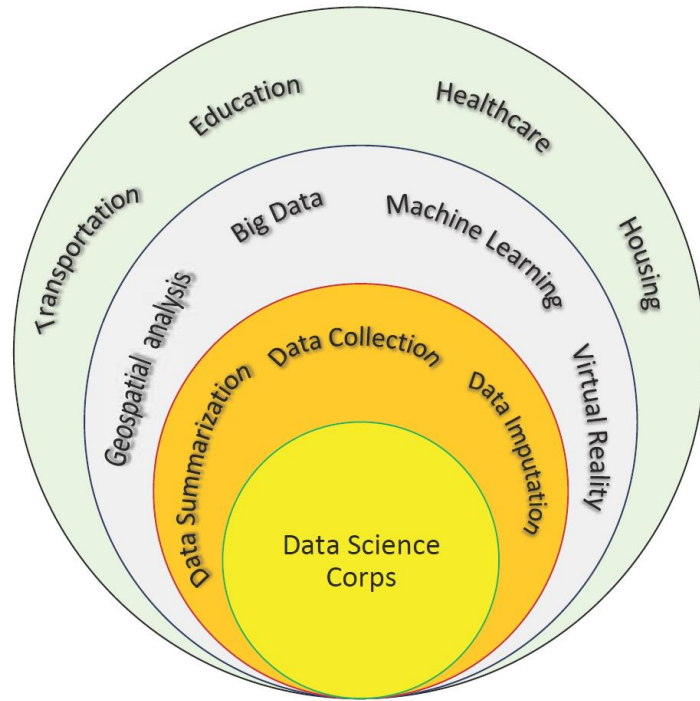
Sharad Sharma (Bowie State)

Seema Iyer (U. Baltimore)

Curriculum map

Harrison, J. (2017). UMBC Curriculum Map Template. Baltimore, MD: UMBC Faculty Development Center. Updated 8-24-20.

Training modules

Data Science for Social Good (Instructor: Dr. Seema Iyer) - Click here for the presentation and video.

Big Data Analytics for Smart Cities (Instructor: Dr. Aryya Gangopadhyay) - Click here for the presentation and video.

Machine Learning for Smart Cities (Instructor: Dr. Sanjay Purushotham) - Click here for the presentation and video.

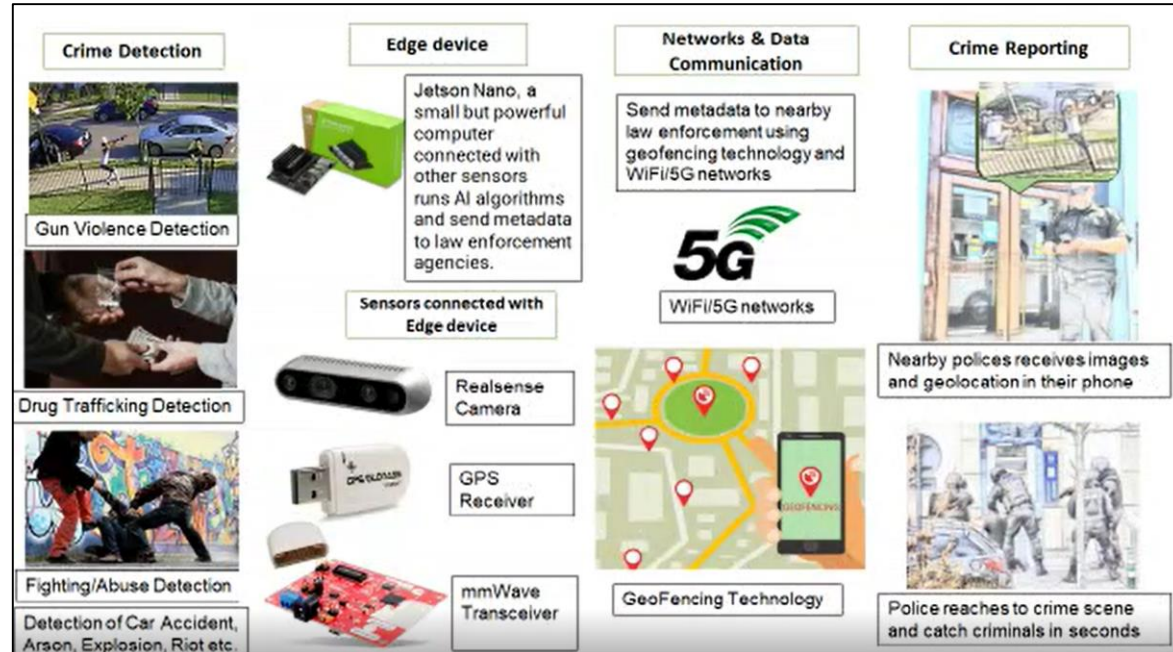Deep Learning for Smart Cities (Instructor: Dr. Tim Oates) - Click here for the presentation and video.

Geospatial Analytics for Smart Cities (Instructor: Dr. Michael McGuire) - Click here for the presentation and video.

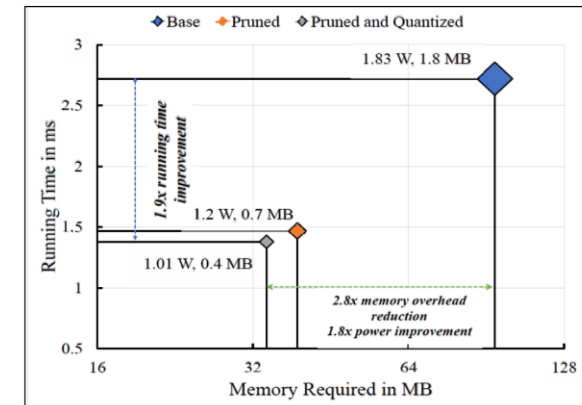Virtual Reality for Smart Cities (Instructor: Dr. Sharad Sharma) - Click here for the presentation and video.

Smart City Technologies (Instructor: Dr. Nirmalya Roy) - Click here for the presentation and video.

Cybersecurity for Smart Cities (Instructor: Dr. Anupam Joshi) - Click here for the presentation and video.

Data science Corps for Smart Cities

City Name	LR		DT		RF		DNN		ARIS	
	Non Accident	Accident	Non Accident	Accident	Non Accident	Accident	Non Accident	Accident	Non Accident	Accident
Atlanta	0.65	0.8	0.66	0.81	0.67	0.78	0.81	0.88	**0.84**	**0.91**
Seattle	0.9	0.71	0.89	0.59	0.87	0.71	0.95	0.86	**0.96**	0.9
Detroit	0.69	0.76	0.72	0.78	0.69	0.87	0.85	0.86	**0.89**	0.9
Miami	0.69	0.76	0.72	0.78	0.69	0.77	0.86	0.88	**0.89**	0.9
Denver	0.76	0.74	0.74	0.72	0.77	0.8	0.87	0.86	**0.91**	0.9
Chicago	0.59	0.73	0.45	0.77	0.66	0.66	0.66	0.79	**0.76**	**0.81**