Seventh Workshop on Data Mining in Earth System Science (DMESS 2017)

November 18, 2017
New Orleans, Louisiana, USA

Forrest M. Hoffman, Auroop R. Ganguly, Jitendra Kumar, and Richard Tran Mills

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Pontalba Room on the Mezzanine Level of The Roosevelt New Orleans, a Waldor fAstoria Hotel, New Orleans, Louisiana, USA

Time	Title	Presenting Author	Presentation Type	Paper?	Authors
8:30	Introduction to Data Mining in Earth System Science (DMESS)	Forrest M. Hoffman	Introductory Presentation and Panel Charge		Forrest M. Hoffman, Auroop R. Ganguly, Jitendra Kumar, and Richard Tran Mills
9:00	Precipitation Estimate from Multi-Satellite Remote Sensing Measurements using Machine Learning Methods	Kuolin Hsu	Invited Keynote Presentation		Kuolin Hsu and Soroosh Sorooshian
9:30	Convolutional Neural Network Approach for Mapping Arctic Vegetation using Multi-Sensor Remote Sensing	Zachary Langford	Contributed Paper Presenttion	SP19205	Zachary Langford, Jitendra Kumar, and Forrest M. Hoffman
10:00	*Coffee Break*				
10:15	Resolution Reconstruction of Climate Data with Pixel Recursive Model	Sookyung Kim	Invited Paper Presentation	SP19203	Sookyung Kim, Sasha Ames, Chengzhu Zhang, Jiwoo Lee, and Dean Williams
10:45	Quantifying seasonal patterns in disparate environmental variables using the PolarMetrics R package	Bjorn-Gustaf Brooks	Contributed Paper Presentation	SP19206	Bjorn Brooks, Danny Lee, Ankur Desai, Lars Pomara, and William W. Hargrove
11:15	Vital Role of Training and Education in Big Data Applications	David A. Yuen and Gabriele Morra	Invited Keynote Presentation		David A. Yuen and Gabriele Morra
11:45	*Lunch*				
13:00	A Machine Learning Approach to Non-uniform Spatial Downscaling of Climate Variables	Soukayna Mouatadid	Contributed Paper Presentation	SP19207	Soukayna Mouatadid, Steve Easterbrook, and Andre Erler
13:30	Scalable Algorithms for Clustering Large Geospatiotemporal Data Sets on Manycore Architectures	Vamsi Sripathi	Invited Keynote Presentation		
14:00	Deriving Data-driven Insights from Climate Extreme Indices for the Continental US	David Sathiaraj	Contributed Paper Presentation	SP19201	Xinbo Huang, David Sathiaraj, Lei Wang, and Barry Keim
14:30	How Can Physics Inform Deep Learning Methods in Earth System Science?: Recent Progress and Future Prospects	Anuj Karpatne	Invited Keynote Presentation		Anuj Karpatne
15:00	*Coffee Break*				
15:15	DMESS Panel Discussion				
16:30	*Adjourn Workshop*				
19:15	*DMESS Workshop Dinner at the Red Fish Grill (115 Bourbon Street). Meet in hotel lobby at 7:15 p.m. You are responsible for your own food and drinks.*				

DMESS 2017 Charge to Panelists and Participants

- Workshop brings together Earth scientists, applied mathematicians, computer scientists, hardware vendor reps, and educators
- Presentations: 1 invited paper, 4 contributed papers, & 4 keynotes
- For the panel discussion this afternoon at 3:15 p.m., consider
  - Earth science applications of data mining & machine learning techniques
  - DM & ML methods and techniques relevant to those applications
  - Algorithms, parallel and scalable implementations, distributed vs. shared memory
  - Hardware: accelerators, vector processors, networks and interconnects, memory hierarchies, emerging storage technologies (e.g., fast NVRAM)
- Future collaborative research opportunities and publications
  - Position paper
  - Special journal issue

DMESS 2017 Workshop Dinner

- **Red Fish Grill**, 115 Bourbon St (2 blocks from the hotel, across Canal St)
- Everyone is responsible for their own food and drink charges
- Reservation is for 15 people at 7:30 p.m.
- Let’s meet in the Lobby at 7:15 p.m.