

# Machine Learning for Unconventional Resources

## MLUR 2019

Houston, TX  
Nov 18 & 19



### MACHINE LEARNING, ARTIFICIAL INTELLIGENCE AND DATA ANALYTICS FOR COST EFFECTIVE AND SAFE EXPLORATION OF SHALE RESOURCES: RECENT ADVANCES AND KEY CHALLENGES

#### CALL FOR PAPERS

FACT Inc. and University of Houston are organizing a joint workshop with the primary goal of bringing together a wide variety of participants to facilitate initiation, discussion and interaction of novel ideas, approaches and methods around theoretical and applied Machine learning, Artificial Intelligence and Data Analytic (ML-AI-DA) topics, in a broad spectrum of disciplines in the energy industry. The organizing committee is soliciting papers to identify key topics and speakers for the MLUR workshop as well as brain storming sessions for future direction of research and development on Big Data and Deep Learning for more efficient exploration and production of unconventional resources with reduced cost and increased efficiency.

#### HOW TO PARTICIPATE

Workshop participation could be in one or more of the following:

**Paper Presentation-** Submit a one page abstract containing the title, author(s) name, affiliation and choice of session from the list below.

**Poster Presentation-** Submit a title and author(s) name of the poster.

**Panelist-** We also plan to have four panel discussion sessions. All workshop registrants will be divided into different panels for brain storming. Please indicate your topic of interest and whether you volunteer to co-lead one of the panels.

**The deadline for abstract submission for a paper or poster is September 30<sup>th</sup> 2019.**

#### WORKSHOP FORMAT

MLUR workshop will include several keynote speeches from both technical experts in the both unconventional resources and machine learning. We will have several oil company and service company leaders to discuss the recent experiences and the future needs for ML-AI-DA technology applications to real life problems. The Academia, National Laboratory and other R&D entities will focus on the future trends and programs. The discussion and brain storming sessions will provide a forum for more dialogue on where we are and where we are going on ML-AI-DA for unconventional resources.

*“We anticipate the workshop will spark discussions in an informal setting to understand how ML technologies fit into current activities, evaluate the impact of these technologies and explore new opportunities for the energy industry.”*

#### REGISTRATION

All workshop participants should register. The registration fee before September 15 is \$280 and for full time students \$40. From September 16 the fees will be \$350 and \$50 respectively. Remittance information will be provided when an e-mail with the registrant information to one of the workshop co-organizers is received.

**FOR FURTHER INQUIRIES AND PAPER SUBMISSION, PLEASE CONTACT ONE OF THE CONFERENCE CO-CHAIRS PER BELOW.**

#### WORKSHOP SESSIONS

1. Successful examples of pioneering ML-AI-DA work for unconventional resources.
2. Recent advances in hydraulic fracturing that has benefitted from the use of ML and AI.
3. Current status and emerging trends in ML-AI-DA technologies for oil and gas applications.
4. Desirable characteristics of ML technologies to address the needs of shale resources development.
5. Combining machine learning concepts with geomechanics and microseismic info to enhance SRV.
6. Current and future challenges for ML-AI-DA in cost reduction and improved safety for shale E&P.
7. Big Data requirements of monitoring induced seismicity and other shale reservoir surveillance issues.
8. Open problems and unresolved questions that require rethinking the current practices or further research.
9. Wrong perceptions & unrealistic expectations in ML-AI-DA capabilities, common bad practices & failures.

#### WORKSHOP ORGANIZING COMMITTEE:

Fred Aminzadeh (Co-Chair) | 805.570-6108 | Faminzad@usc.edu  
Mohamed Soliman (Co-Chair) | 281.760-6754 | msoliman@Central.UH.EDU  
Minou Rabiei (University of North Dakota)  
Ahmed Ouenes (FracGeo)  
Dave Maity (Gas Technology Institute)  
George Vassilellis (Baker Hughes/GE)  
Grant Bromhal (NETL)  
Sarah Tamilarasan (Sotaog)

#### WORKSHOP SPONSORS:

