Exploring Artificial Intelligence in the Art of Patent Searching

Abstract:
This workshop will explore the state of the art of Artificial Intelligence. The word patent originates from the Latin ***patere***, which means "to lay open" (i.e., to make available for public inspection). Letters patent is an open document or instrument issued by a monarch or government granting exclusive rights. Interestingly, grants included land patents, which were land grants by early state governments in the USA, and printing patents, a precursor of modern copyright. Language matters and terms evolve.

There is an exponential growth of information for search and the examiner may be searching for related information to something that does not exist during patent prosecution. Prior art search for patent prosecution is more similar to looking for a needle that did not already exist in an ever growing haystack, how can and/or will AI close the gap?

Split into 2 parts, the first section of the USPTO workshop will cover an overview of the current efforts at the USPTO in the area search.

Second, the workshop will focus on attendees providing thought leadership questions around the capabilities and applications of AI and patent searching.

What are the differentiators or competitive advantages in this field of AI, is it:

- Implementing a distributed file system infrastructure(s) to collect and store available data from multiple sources (including NPL)?
- Providing ready access to AI/ML algorithms for search string augmentation with critical concepts/topics and topic search analysis?
- Curating the best references across a single or multiple AI search systems;
- The use of automated CPC classification tools?
- Development and use of image search for design and utility patents?
- Other new emerging areas today and in the future, where is the technology/market heading?

Presenter: **Thomas A. Beach**

Bio:
Thomas A. Beach is Chief Data Strategist and Portfolio Manager of the USPTO's Patents End to End (PE2E) and Patent Trial & Appeal Board End-to-End (PTAB) initiatives. In these roles, he serves as part adviser, part steward for improving data quality, part evangelist for data sharing, part technologist, and part developer of new data products. He also works to ensure that agency systems keep pace with private sector technology to provide effective and modern IT for patent application examination Beach's USPTO career spans a variety of key roles. He was the founder and portfolio manager of the Digital Service & Big Data (DSBD) initiative, which worked to unleash and unlock the value of patent and trademark data through data science and machine learning to ensure that patents and trademarks are of the highest quality.

He also served as a senior advisor in the Office of the Under Secretary of Commerce for Intellectual Property, working to advance the USPTO's mission of delivering timely and quality patents and trademarks. As a patent examiner and supervisor, he covered Offshore Oil & Gas Technologies and Business Methods (Fixed Income & Stock Trading and Portfolio Management). A graduate of the Georgia Institute of Technology in Engineering, Beach received his Master's Degree from Georgetown University's McDonough School of Business. He has been a guest speaker at the White House Open Data Summit, Scheller College of Business at Georgia Tech, and the Harvard Business School. Most recently, Thomas was nominated for FedScoop Top 50 Federal Leaders of 2018.