Identificación de unidades saturadas, en Sondeo Eléctrico Vertical

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Resumen

Aplicando metodologías de Aprendizaje Automático se realiza el entrenamiento de algoritmos, buscando generar el reconocimiento temprano de anomalías en mediciones de Resistividad Aparente, en ensayos de Sondeos Eléctricos verticales, cuyo tendencia y comportamiento se relaciona a zonas de saturación en el subsuelo, los datos se componen de los siguientes, sondeos de control y aleatorios a fin de generar un reconocimiento en distintos contrastes, aplicando XXXXXX y obteniendo XXXXXX, como resultado se puede observar un claro/nula respuesta en predicciones de acuífero, teniendo un porcentaje % error , % exito,...

Keywords: Resistividad Aparente, Keyword2, Keyword3, Keyword4

1. Introducción

que es el ML.... como se aplica a la Geofísica... como se emplea en Geoelectrica... con respecto a la prospección Geoelectrica mediante Sondeos Eléctricos Verticales, no se aplican técnicas de ML en el proceso de adquisición de datos, esta tarea se relega al uso de software especializado, que realiza regresiones logarítmicas condicionadas a la física de dispersión donde una corriente eléctrica fluye en uno o varios medios geológicos/estructurales; el emplear ML en la etapa de adquicion es una oportunidad para mejorar la densidad de información en los niveles, profundidad, que se requiera mayor resolución, mejorando la calidad en consecuencia obtener una mejor inversión de datos.

2. Objetivos

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3. Metodología

3.1. Estadística descriptiva

3.2. Aplicación de ML

Sample body

4. Resultados

5. Discucion

6. Algorithms, Program codes and Listings

Packages `algorithm`, `algorithmicx` and `algpseudocode` are used for setting algorithms in LaTeX using the format:

```
\begin{algorithm}
\caption{<alg-caption>}\label{<alg-label>}
\begin{algorithmic}[1]
. . .
\end{algorithmic}
\end{algorithm}
```

You may refer above listed package documentations for more details before setting `algorithm` environment. For program codes, the "verbatim" package is required and the command to be used is `\begin{verbatim} ... \end{verbatim}`.

Similarly, for `listings`, use the `listings` package. `\begin{lstlisting} ...  \end{lstlisting}` is used to set environments similar to `verbatim` environment. Refer to the `lstlisting` package documentation for more details.

A fast exponentiation procedure:

```
begin
   for  i := 1  to  10  step  1  do
        expt (2, i);
        newline ( )  od                      Comments will be set flush to the right margin
where
proc  expt (x, n)  ≡
   z := 1 ;
   do  if  n = 0  then  exit  fi ;
       do  if  odd (n)  then  exit  fi ;
           comment :  This is a comment statement;
           n := n/2 ;   x := x * x  od ;
       {  n > 0  };
```

```
    n := n − 1;  z := z * x  od ;
  print ( z ) .
end
```

Algorithm 1 Calculate $y = x^n$

Require: $n \geq 0 \vee x \neq 0$
Ensure: $y = x^n$
1: $y \Leftarrow 1$
2: **if** $n < 0$ **then**
3:      $X \Leftarrow 1/x$
4:      $N \Leftarrow -n$
5: **else**
6:      $X \Leftarrow x$
7:      $N \Leftarrow n$
8: **end if**
9: **while** $N \neq 0$ **do**
10:      **if** N is even **then**
11:          $X \Leftarrow X \times X$
12:          $N \Leftarrow N/2$
13:      **else**$[N$ is odd$]$
14:          $y \Leftarrow y \times X$
15:          $N \Leftarrow N - 1$
16:      **end if**
17: **end while**

```
for i:=maxint to 0 do
begin
{ do nothing }
end ;
Write ( 'Case - insensitive - ' ) ;
Write ( 'Pascal - keywords . ' ) ;
```

6.1. Details on reference citations

Standard LaTeX permits only numerical citations. To support both numerical and author-year citations this template uses `natbib` LaTeX package. For style guidance please refer to the template user manual.

Here is an example for `\cite{...}`: [**?**]. Another example for `\citep{...}`: [**?**]. For author-year citation mode, `\cite{...}` prints Jones et al. (1990) and `\citep{...}` prints (Jones et al., 1990).

All cited bib entries are printed at the end of this article: [**?**], [**?**], [**?**], [**?**], [**?**], [**?**], [**?**], [**?**], [**?**], [**?**] and [**?**].

7. Discussion

Discussions should be brief and focused. In some disciplines use of Discussion or 'Conclusion' is interchangeable. It is not mandatory to use both. Some journals prefer a section 'Results and Discussion' followed by a section 'Conclusion'. Please refer to Journal-level guidance for any specific requirements.

8. Conclusion

Conclusions may be used to restate your hypothesis or research question, restate your major findings, explain the relevance and the added value of your work, highlight any limitations of your study, describe future directions for research and recommendations.

In some disciplines use of Discussion or 'Conclusion' is interchangeable. It is not mandatory to use both. Please refer to Journal-level guidance for any specific requirements.

Supplementary information.   If your article has accompanying supplementary file/s please state so here.

Authors reporting data from electrophoretic gels and blots should supply the full unprocessed scans for key as part of their Supplementary information. This may be requested by the editorial team/s if it is missing.

Please refer to Journal-level guidance for any specific requirements.

Acknowledgments.   Acknowledgments are not compulsory. Where included they should be brief. Grant or contribution numbers may be acknowledged.

Please refer to Journal-level guidance for any specific requirements.

Declarations

Some journals require declarations to be submitted in a standardised format. Please check the Instructions for Authors of the journal to which you are submitting to see if you need to complete this section. If yes, your manuscript must contain the following sections under the heading 'Declarations':

- Funding
- Conflict of interest/Competing interests (check journal-specific guidelines for which heading to use)
- Ethics approval
- Consent to participate
- Consent for publication
- Availability of data and materials
- Code availability
- Authors' contributions

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

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BMC journals: https://www.biomedcentral.com/getpublished/editorial-policies

Apéndice A   Section title of first appendix

An appendix contains supplementary information that is not an essential part of the text itself but which may be helpful in providing a more comprehensive understanding of the research problem or it is information that is too cumbersome to be included in the body of the paper.