TECHNOLOGY BASELINE

PREDIRE IN GRAFANA

Where your predictions come true

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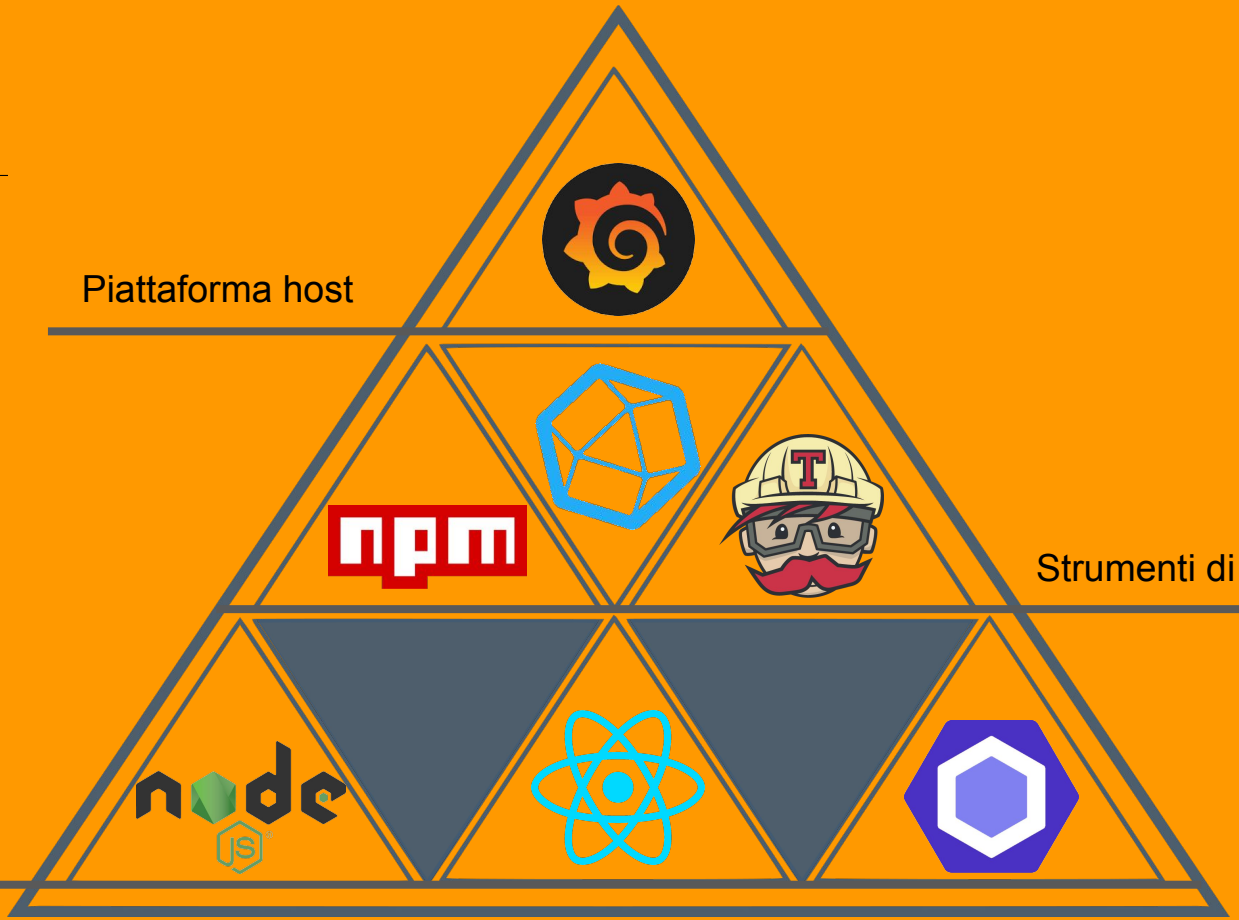
LINGUAGGI UTILIZZATI

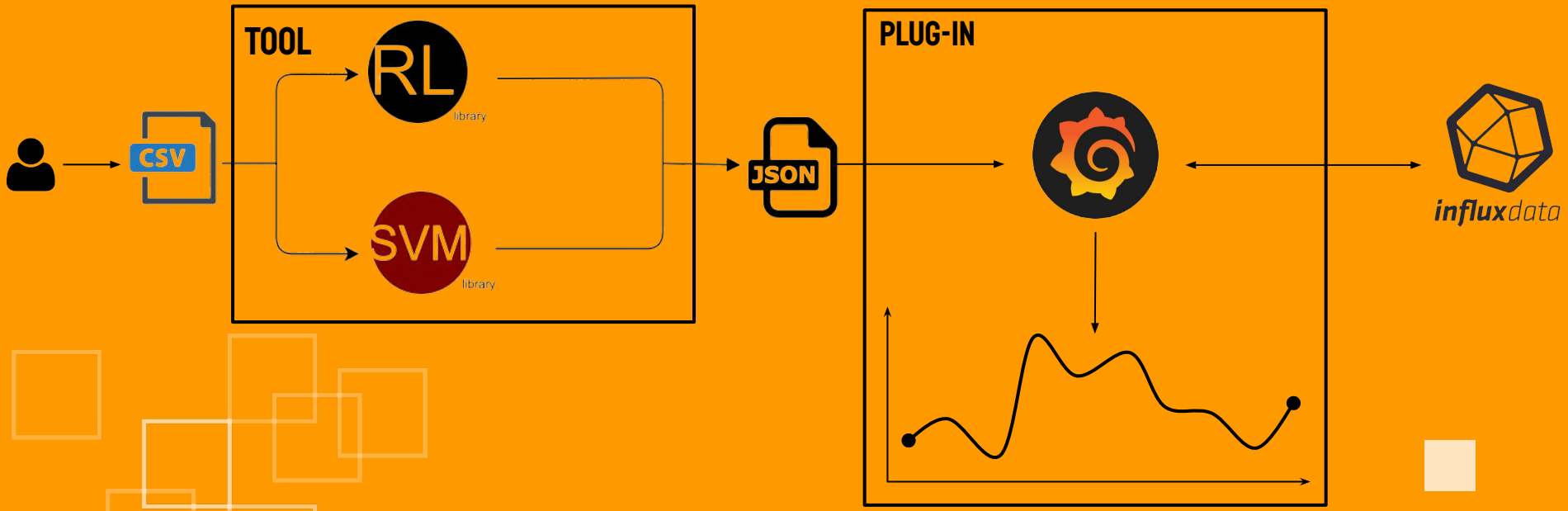
TOOL

PLUG-IN

TECNOLOGIE UTILIZZATE



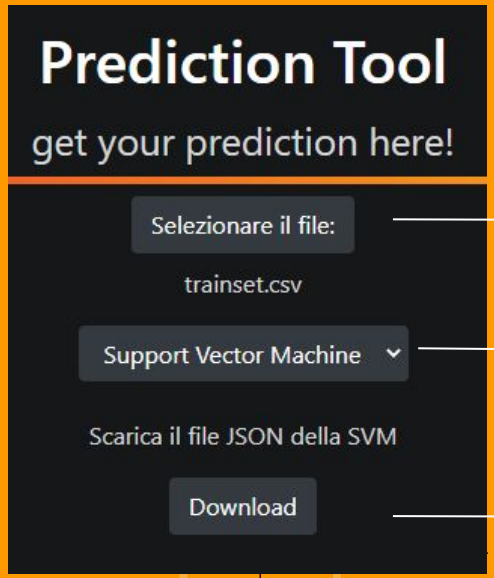
FUNZIONAMENTO GENERALE



CASI D'USO AFFRONTATI

CODICE	IDENTIFICATIVO	CASO D'USO
UC1	UC1.1	Selezione dati di addestramento
	UC1.2	Selezione dell'algoritmo di previsione
	UC1.3	Conferma procedura addestramento
	UC1.4	Salvataggio file JSON
UC2	UC2.1	Selezione del file JSON
UC3	UC3.1	Selezione database
	UC3.2	Selezione del flusso dati
UC9	Estensione UC1.3	Visualizzazione messaggio di errore "File CSV incompatibile"

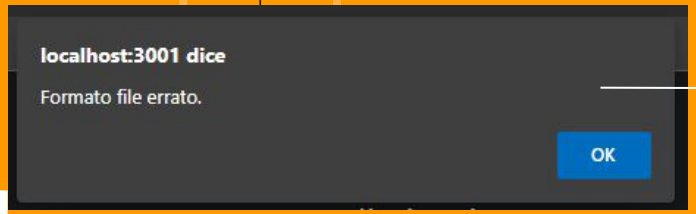
TOOL & PLUG-IN



input csv

selezione algoritmo

output json



avviso file csv non compatibile

visualizzazione previsione

impostazione database e flusso

settaggio predizione

SUPPORT VECTOR MACHINE

```
trainSvm = () => {
    let dataSVM=this.props.dataSVM;

    let data = [dataSVM.length-1];
    for(let i=0; i<dataSVM.length-1; i++) {
        data[i] = new Array( arrayLength: dataSVM[0].length-1);
    }

    let labels = [dataSVM.length-1];
    for(let i=0;i<data.length;i++){
        for (let j=0;j<data[i].length;j++) {
            data[i][j] = dataSVM[i+1][j];
        }
        labels[i]=dataSVM[i+1][dataSVM[i+1].length-1];
    }

    svm.train(data, labels, {C: 3, numpasses: 100}); // C is a parameter to SVM

    return svm.getWeights();
}
```

```
downloadFile =  () => {
    const myData = {
        author: 'TeamAFK',
        version: '1.0.0',
        algorithm: 'SVM',
        date: this.getDate(),
        predictors: this.getColumnsName(),//this.predictor(),
        result: this.trainSvm()
    };
    let data = JSON.stringify(myData, replacer: null,  space: 1);
```

```
{
 "author": "TeamAFK",
 "version": "1.0.0",
 "algorithm": "SVM",
 "date": "2020/05/04",
 "predictors": {
  "w": [
   "x",
   "y"
  ],
  "b": "label"
 },
 "result": {
  "w": [
   0.4944347280075373,
   0.43266474914839753
  ],
  "b": -4.524675476600924
 }
}
```

https://github.com/karpathy/svmjs

REGRESSIONE LINEARE

```
insert(){
 let data =[];
 let dataY = [];
    if(this.state.dataRl[0].length>2)
    {
        for (let i = 0; i < this.props.dataRl.length-1; i++) {
            data = [];
            dataY=[];
            data.push(1);

            for (let j = 0; j < this.props.dataRl[i].length - 1; j++)
                data.push(this.props.dataRl[i+1][j]);

            dataY.push(this.props.dataRl[i+1][this.props.dataRl[i+1].length-1])
            //console.log(data)
            //console.log(dataY)
            this.state.reg.push({ x: data, y: dataY });
        }
    } else {
        for (let i = 0; i < this.props.dataRl.length-1; i++) {
            data = [];
            dataY=[];
            data.push(1);
            data.push(this.props.dataRl[i+1][0]);
            dataY.push(this.props.dataRl[i+1][this.props.dataRl[i+1].length-1])
            //console.log(data)
            //console.log(dataY)
            this.state.reg.push({ x: data, y: dataY });
        }
    }
 }
```

```
downloadFile =  () => {
    const myData = {
        author: 'TeamAFK',
        version: '1.0.0',
        algorithm: 'Linear Regression',
        date: this.getDate(),
        predictors: this.getColumnsName(),//this.predictor(),
        result: this.state.reg.calculateCoefficients(),
        line: this.print_retta()
    }; // I am assuming that "this.state.myData"
    let data = JSON.stringify(myData, replacer: null, space: 1);
```

```
{
 "author": "TeamAFK",
 "version": "1.0.0",
 "algorithm": "Linear Regression",
 "date": "2020/05/04",
 "predictors": {
  "a": [
   "x1",
   "x2"
  ],
  "b": "y"
 },
 "result": {
  "a": [
   2,
   0
  ],
  "b": 7.105427357601002e-15
 },
 "line": "y = a1x,a2x + b"
}
```