MinViME

Release 1.0.0

John Hawkins

Apr 22, 2021

CONTENTS

1 Content **3**
1.1 Introduction 3
1.2 Installation 3
1.3 Usage Guide 4
1.4 API 6
1.5 License 6

2 Indices and tables **7**

MinViME is a package and application that will help you estimate the baseline machine learning model performance that will satisfy a set of business criteria.

CHAPTER

ONE

CONTENT

1.1 Introduction

MinViME is a package and application that will help you estimate the baseline machine learning model performance that will satisfy a set of business criteria.

There are two main ways to use MinViME:

1. GUI. You can launch the MinViME flask application and use a graphical interface to supply the problem specification and view the estimate of the minimum viable model performance.
2. API. You can include the MinViME package inside your own custom python code and use it to estimate performance characteristics programmatically, or run simulations across a range of variations in the problem specification.

1.2 Installation

The MinViME package is maintained inside the PyPi package manager.

Install the minvime package from PyPi as follows:

```
pip install minvime
```

Alternatively, you can access the source code for MinViME and use it by installing it locally:

```
git clone https://github.com/john-hawkins/minvime.git
cd minvime
python setup.py install
```

MinViME depends on the following packages:

```
Flask==1.1.1
numpy>=1.16.4
pandas>=0.25.3
matplotlib==3.1.0
```

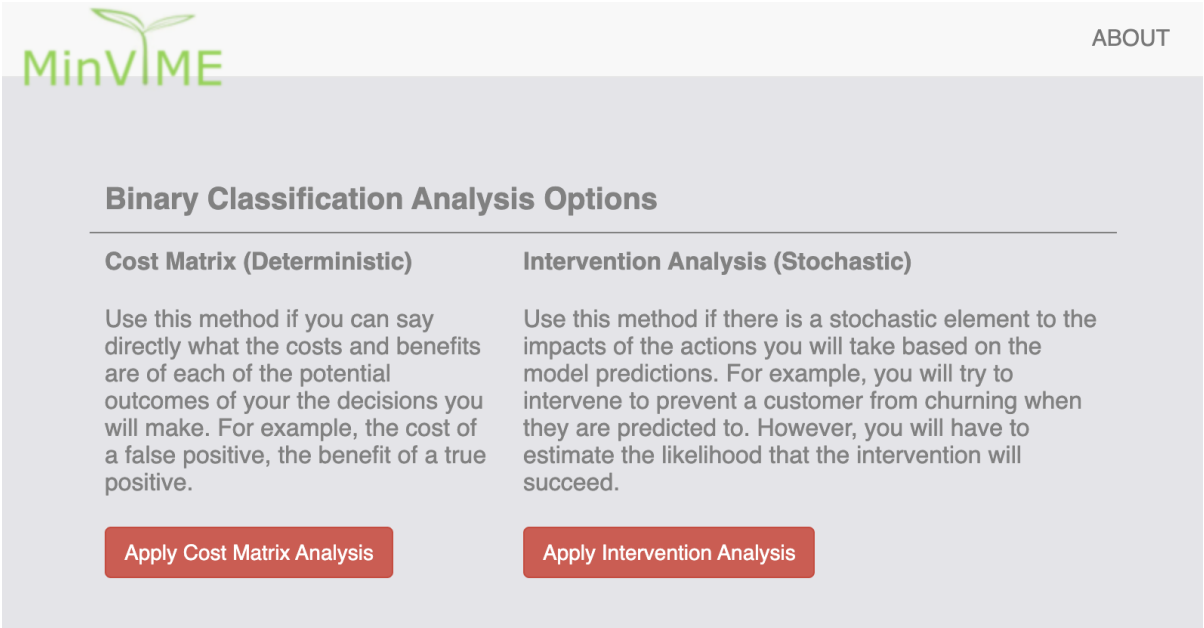
1.3 Usage Guide

Launch the MinViME application from the command line:

```
>minvime
* Serving Flask app "minvime.minvime" (lazy loading)
...
```

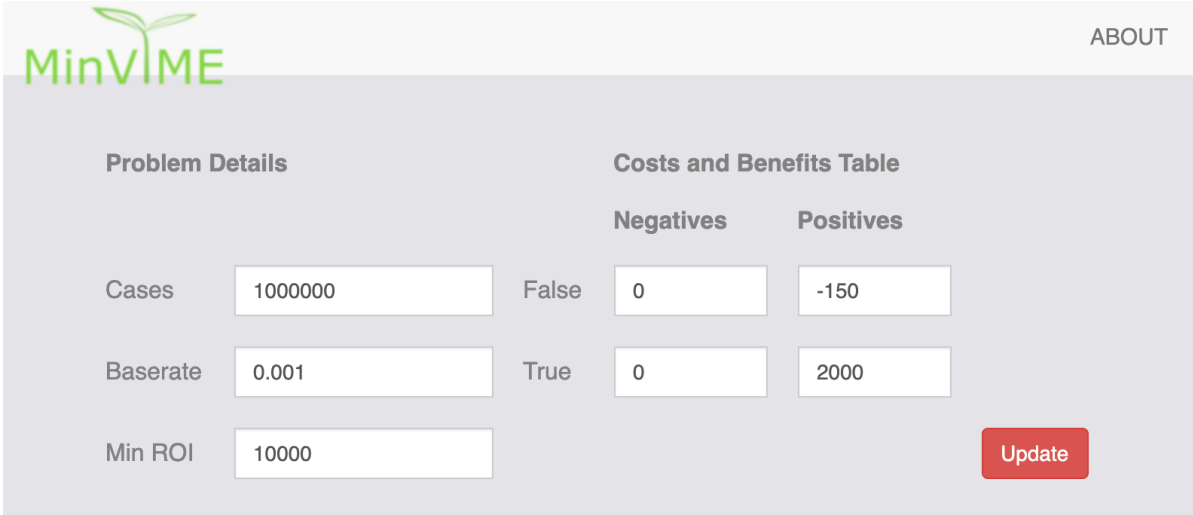
As shown above this command will instantiate a Flask web server and make the minvime applictation available on the default IP:Port combination.

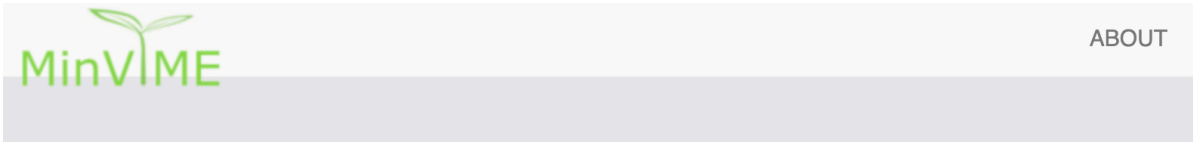
When you navigate to that address the initial screen will prompt you for the type of business problem you are try to solve. As shown in the screenshot below.



In both of these cases the underlying analysis will be the same cost/benefit. However, in the intervention analysis MinViME will calculate the cost/benefit table from statistics you enter about the effectiveness of historical interventions. If the intervention effectiveness is something you are uncertain about, then we recommend that you perform the analysis using boundary estimates.

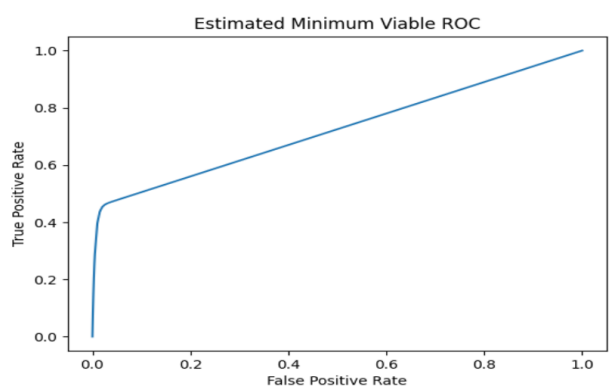
1.3.1 Cost Matrix Analysis



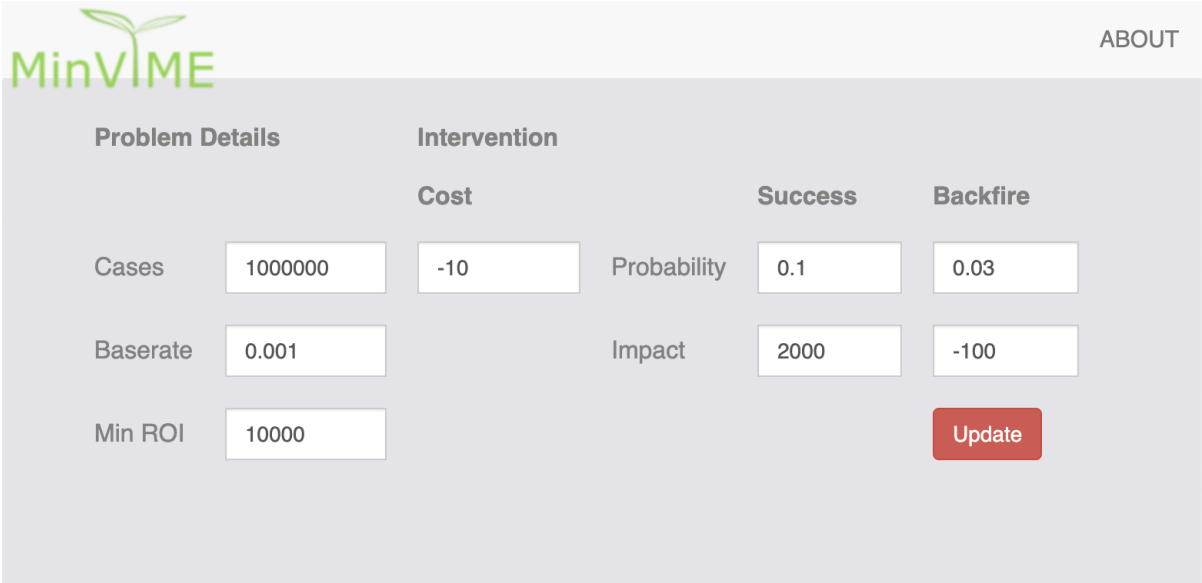


Metric	Estimated Value
AUC	0.723
Precision	0.076
Recall	0.082
Simplicity	0.000496

Simulated ROC



1.3.2 Intervention Analysis



1.4 API

1.5 License

The MIT License (MIT)

Copyright <YEAR> <COPYRIGHT HOLDER>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

CHAPTER

TWO

INDICES AND TABLES

- genindex
- modindex
- search