Solveit User Guide

Version 0.1.2

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Introduction

Solveit is a comprehensive Python toolkit designed for data processing and problem-solving.

It provides a collection of tools for data cleaning, unit conversion, pathfinding, financial calculations, time management, and data visualization.

Installation

pip install Solveit

Core Features

- Data Cleaning: Handle missing values, duplicates, and outliers
- Unit Conversion: Convert between different measurement units
- Pathfinding: Implement various pathfinding algorithms
- Financial Calculations: Calculate interest and loan payments
- Time Management: Schedule and optimize tasks
- Visualization: Create data visualizations

Real-World Examples

1. Cleaning Employee Data

Suppose you have employee_data.csv:

Name,Age,Salary,Department

John,25,50000,IT

Jane,,60000,HR

John,25,50000,IT

Bob,45,,Finance

Alice,100,80000,IT

To clean this data:

1. Open Python and import Solveit
2. Use DataCleaner to:
   - Remove duplicate employee records
   - Fill missing salaries with department averages
   - Remove age outliers
3. Save the cleaned data

2. Converting Units for International Orders

When processing international orders:

1. Convert prices from USD to EUR
2. Convert weights from pounds to kilograms
3. Convert sizes from inches to centimeters

3. Optimizing Delivery Routes

For a delivery service:

1. Input multiple delivery locations
2. Use pathfinding to determine:
   - Shortest route
   - Estimated delivery times
   - Optimal order of deliveries

4. Managing Investment Portfolio

For financial planning:

1. Calculate compound interest on investments
2. Determine loan payments
3. Project investment growth over time

5. Project Management

For a software project:

1. Create tasks with dependencies
2. Assign priorities
3. Generate optimal schedule considering:
   - Team availability
   - Task dependencies
   - Deadlines

6. Data Visualization

For quarterly reports:

1. Create sales trend line plots
2. Show regional distribution with scatter plots
3. Visualize performance metrics

Troubleshooting

Common Issues

1. Data Import Issues

- Check file exists in correct location
- Verify file format (.csv or .xlsx)
- Ensure proper file permissions

2. Calculation Errors

- Verify input data types
- Check for missing values
- Validate numerical ranges

3. Performance Issues

- Process data in smaller batches
- Use appropriate algorithms
- Optimize resource usage

Support

Getting Help

- GitHub Issues: https://github.com/KashyapSinh-Gohil/Solveit/issues
- Email: k.agohil000@gmail.com

Contributing

Contributions are welcome! Please feel free to submit a Pull Request.

License

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