

MARP Tutorial: Creating Presentations with Markdown

Target Audience: Users with computing/physics backgrounds

1. Introduction to MARP

What is MARP?

MARP (Markdown Presentation Ecosystem) converts Markdown files into slideshows (HTML, PDF, PPTX). It combines the simplicity of Markdown with features like:

- **Math support** (KaTeX for equations).
- **Code highlighting** (great for coding examples).
- **Customizable themes** (CSS/SCSS).
- **Live preview** (via VSCode, CLI, etc.).

Why Use MARP?

- Avoid GUI tools like PowerPoint.
- Replace verbose LaTeX Beamer with lightweight Markdown.
- Version-control presentations with Git.
- Perfect for **technical content** (equations, code, diagrams).
- **No compilation** (no need to compile LaTeX).
- **Easy installation** (via VSCode).
- **Pure Markdown** (no need to learn new syntax).

2. Installation

Option 1: VS Code Extension (Recommended)

1. Install VS Code.
2. Install the **Marp for VS Code** extension.

Option 2: CLI via npm

```
npm -g install @marp-team/marp-cli
```

3. Basic Usage

Setting up the environment

Put the following in the top of the file:

```
---  
marp: true  
---
```

Creating Slides

Separate slides with `---`:

```
# Slide 1  
Hello, World!
```

```
## Slide 2  
- Item 1  
- Item 2
```

Code Blocks

Use triple backticks with language syntax:

```
```python
def fibonacci(n):
 return n if n <= 1 else fibonacci(n-1) + fibonacci(n-2)
```
```

Math Equations

Enable KaTeX with `math: katex` in the front-matter:

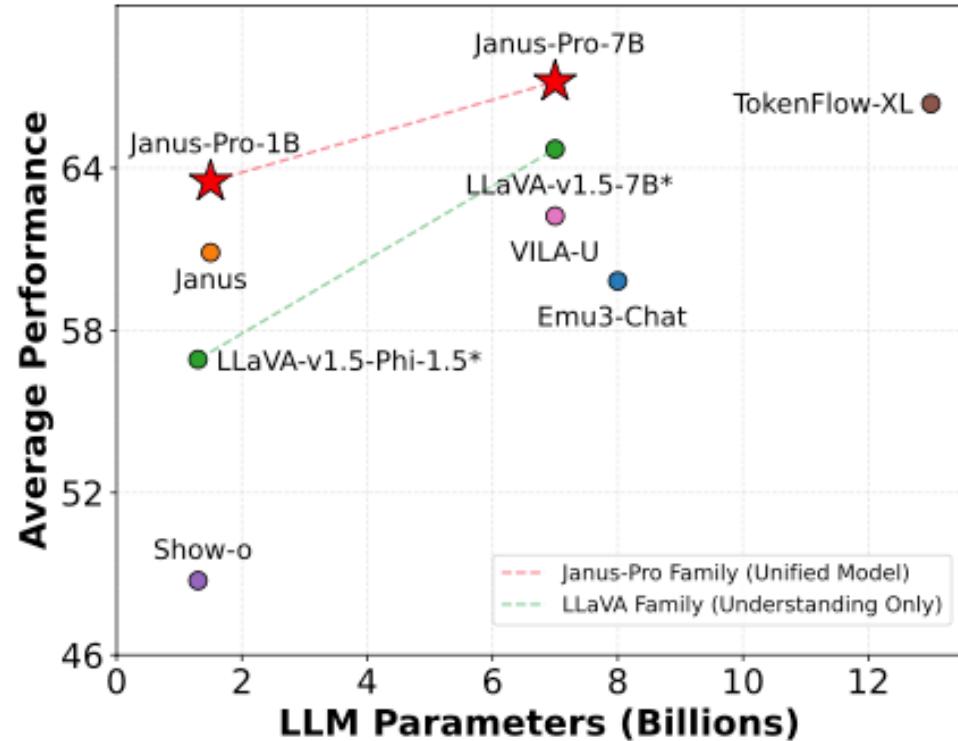
Schrödinger Equation

```
$$
i\hbar \frac{\partial}{\partial t} \Psi = \hat{H} \Psi
$$
```

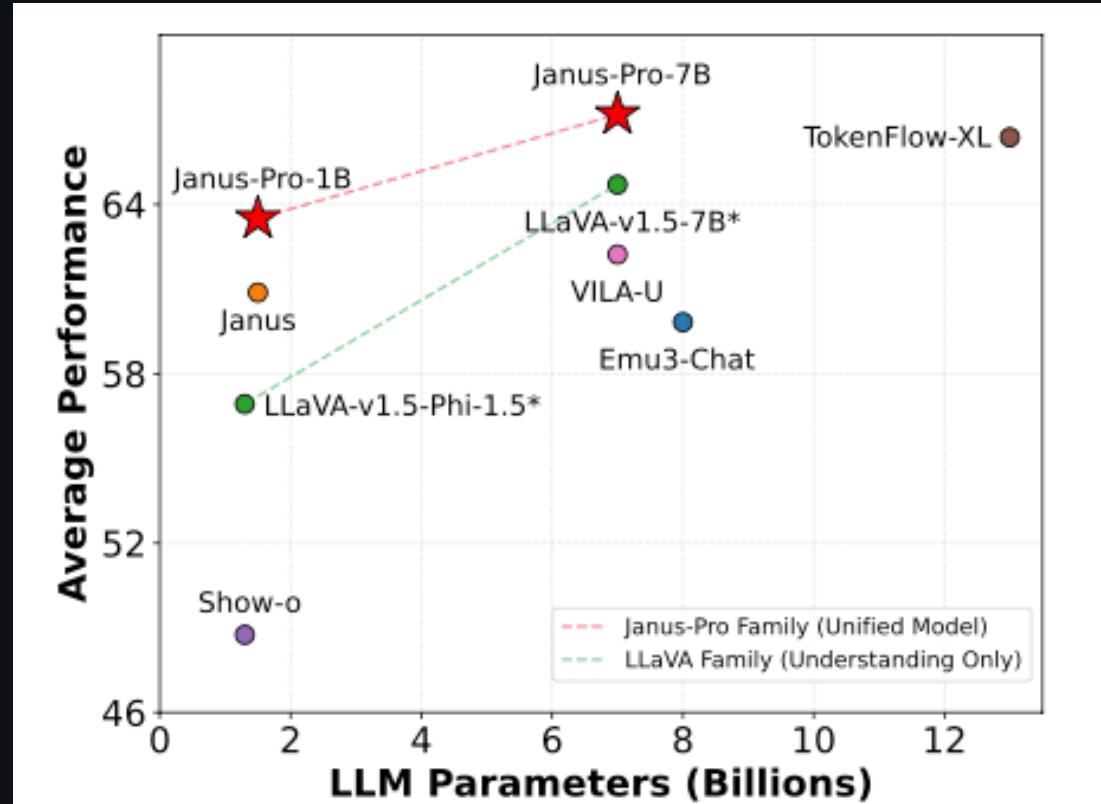
$$i\hbar \frac{\partial}{\partial t} \Psi = -\frac{\hbar^2}{2m} \nabla^2 \Psi + \hat{V} \Psi$$

$$\mathcal{H} = \mathcal{T} + \mathcal{V} \quad \mathbb{R}$$

Images



(a) Average performance on four multimodal understanding benchmarks.



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Tables

| ID | Full Name | Score |
|-----|-----------------------|-------|
| 127 | João da Silva Moreira | 100 |
| 342 | Maria Oliveira | 90 |

Table 1: Students scores.



Here is a message with beautiful background!

Be happy!

4. Advanced Topics

Multi-Column Layouts

Use HTML comments to split content:

```
<div class="columns">
<div>

**Left Column**

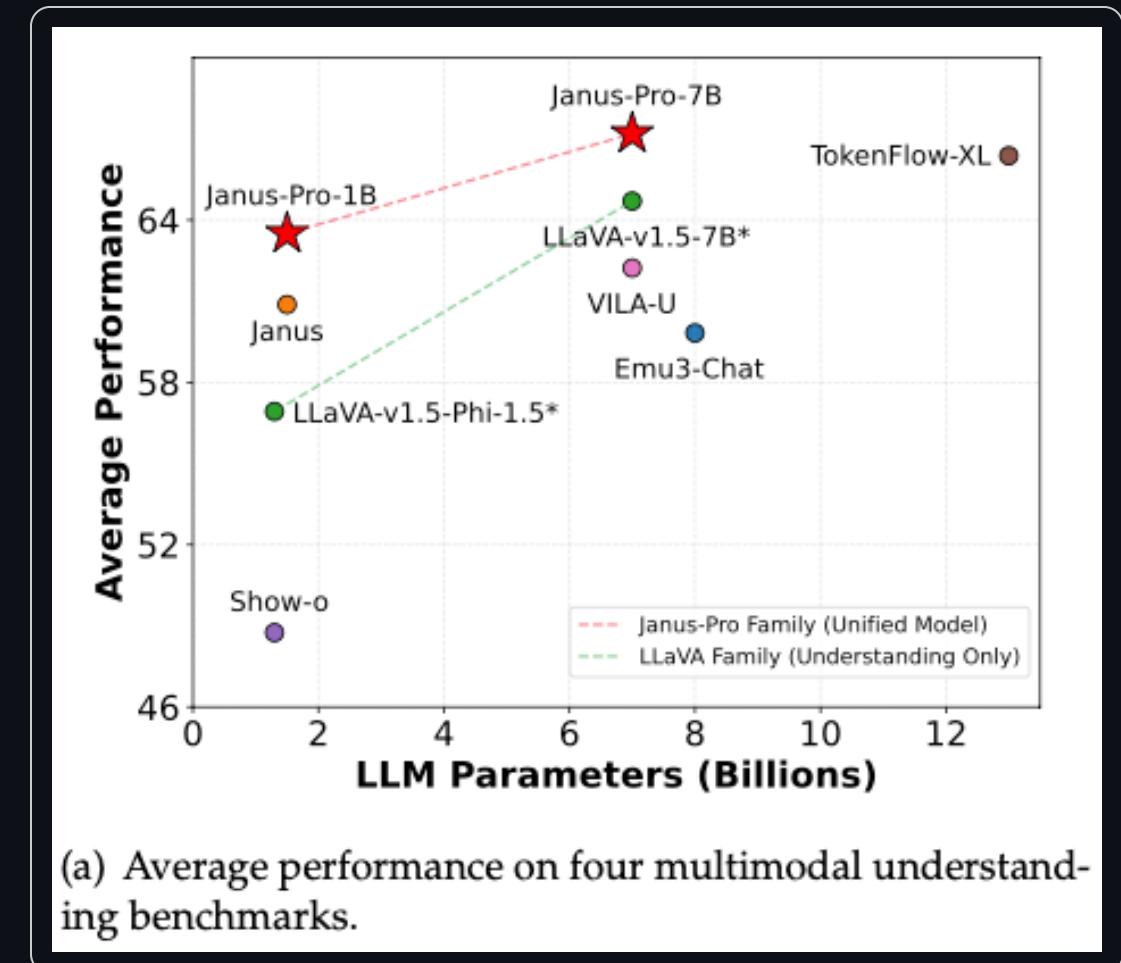
</div>
<div>

**Right Column**

</div>
</div>
```

Left Column

ID	Full Name	Score
127	João da Silva Moreira	100
342	Maria Oliveira	90



5. Exporting Slides

Via VS Code

1. Open the command palette (`ctrl+Shift+P`).
2. Select **MARP: Export slide deck**.

Via CLI

```
marp --input-dir ./slides --pdf
```

6. Best Practices

- **Keep slides concise:** Use bullet points, not paragraphs.
- **Leverage visuals:** Embed plots/diagrams (e.g., Matplotlib exports).
- **Test rendering:** Preview themes and math syntax early.

7. Conclusion

MARP streamlines creating technical presentations by combining Markdown's simplicity with powerful features like code blocks, KaTeX, and themes. Its CLI/VS Code integration fits perfectly into a developer/scientist workflow.

Next Steps:

- Explore [official docs](#).
- Experiment with custom SCSS themes.
- Integrate MARP into your CI/CD pipeline for automated PDF generation.