Software Requirements Specification for "Beam Bending"

Examining a beam bending under load.

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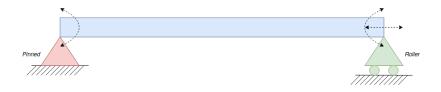Jan. 26th, 2023

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Beam Bending

Overview

1. Background: Drasil
2. 4 Research Areas:
   1. Structuring theories
   2. Restricting mathematical expression terminology to appropriate contexts
   3. Well-typedness of mathematical expressions
   4. An extensible database for remembering everything

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What is Drasil? How does it work?

"Generate All The Things!"

1. Software generation suite for "well-understood" domains
2. De-duplicating and capturing knowledge across software artifacts
3. Uses a Software Requirements Specification (SRS) template to decompose scientific problems and generate software

Example
SRS to Code

Using SRS components:

1. Symbols (inputs, outputs, and everything in-between)
2. Problem description and goals
3. Assumptions
4. Abstract theories
5. Concrete theories
6. ...

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Concluding Remarks & Takeaways

To sum up, we. . .

1. structured theories,

2. restricted expressions by context,

3. added type-checking to expressions,

4. and prototyped an extensible chunk database structure.