Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)
- Cookies.

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)
- Cookies
- Dividing by prime numbers.

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)
- Cookies
- Dividing by prime numbers.

Dislikes:

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)
- Cookies
- Dividing by prime numbers.

Dislikes:

- Tornados

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)
- Cookies
- Dividing by prime numbers.

Dislikes:

- Tornados
- Characteristic 2

Nick Davidson

- University of Oklahoma
- Postdoc in GRTA Program

Likes:

- Algebras (Lie, super, diagrammatic…)
- Using made up words (“supercategorification”)
- Cookies
- Dividing by prime numbers.

Dislikes:

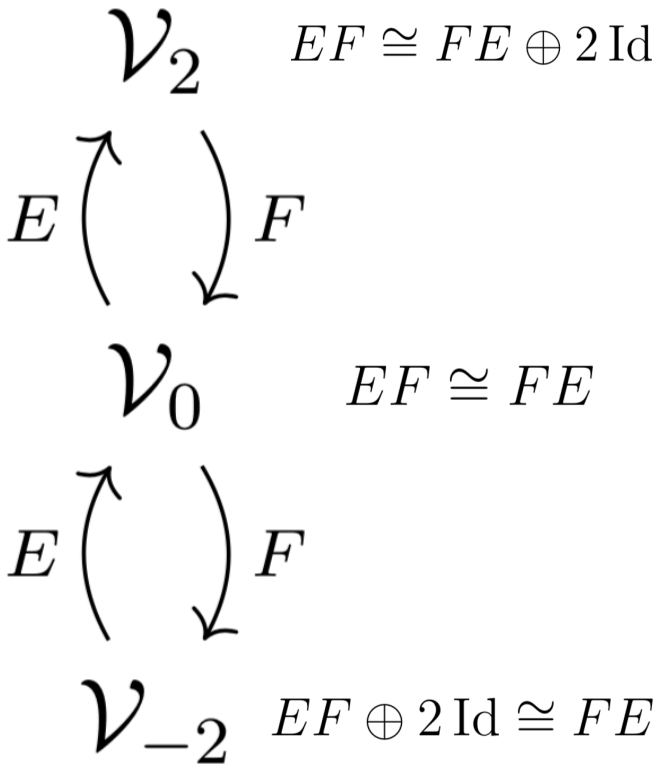
- Tornados
- Characteristic 2
- Coconut in baked goods.

Categorification and Lie Algebras

- Idea: Study actions of Lie algebras on *categories* rather than *vector spaces*.

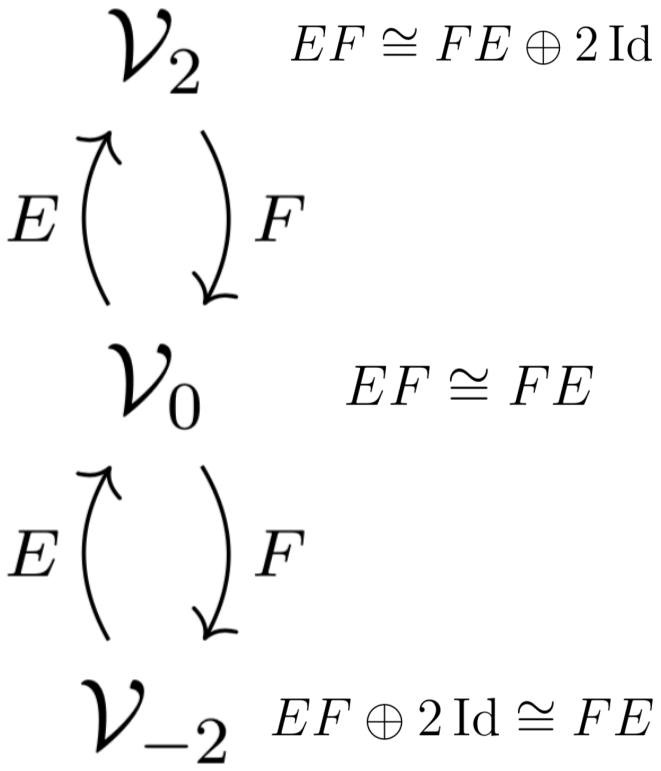
Categorification and Lie Algebras

- Idea: Study actions of Lie algebras on *categories* rather than *vector spaces*.



Categorification and Lie Algebras

- Idea: Study actions of Lie algebras on *categories* rather than *vector spaces*.
- Examples include:
  - BGG Category $\mathcal{O}$ associated to various Lie (super)algebras.
  - Representations of symmetric groups and Hecke algebras.



Categorification and Lie Algebras

- Idea: Study actions of Lie algebras on *categories* rather than *vector spaces*.
- Examples include:
  - BGG Category $\mathcal{O}$ associated to various Lie (super)algebras.
  - Representations of symmetric groups and Hecke algebras.
- Achievements from this theory include:
  - Deep understanding of previously known results

    (e.g S_n-branching rules)
  - Use theoretical framework to prove new theorems about categories.

    (e.g, uniqueness of categorifications)