Ember Shield

Red A
The Need

Concept: Owner-deployable emergency shield for homes

2018: Over 8000 homes damaged or destroyed in California

Majority of house fires due to embers, not flames

Fire retardant gels and hand-placed aluminized wraps: time and labor intensive
Question: Technical Feasibility

Can we design something that two people can deploy over a house?
Scaling Assumptions

Full scale house: 36’ tall, 72’ span

\( \frac{1}{3} \) scale house: 12’ tall, 24’ span
Design Goal

A modular, stiff structure

Easily assembled and deployed

Support protective ember-proof sheets
Initial Modeling
Final Model
Spanning a House
Results

Structural challenges

Usability challenges

Scalability challenges

Continue to develop or explore alternative solutions?