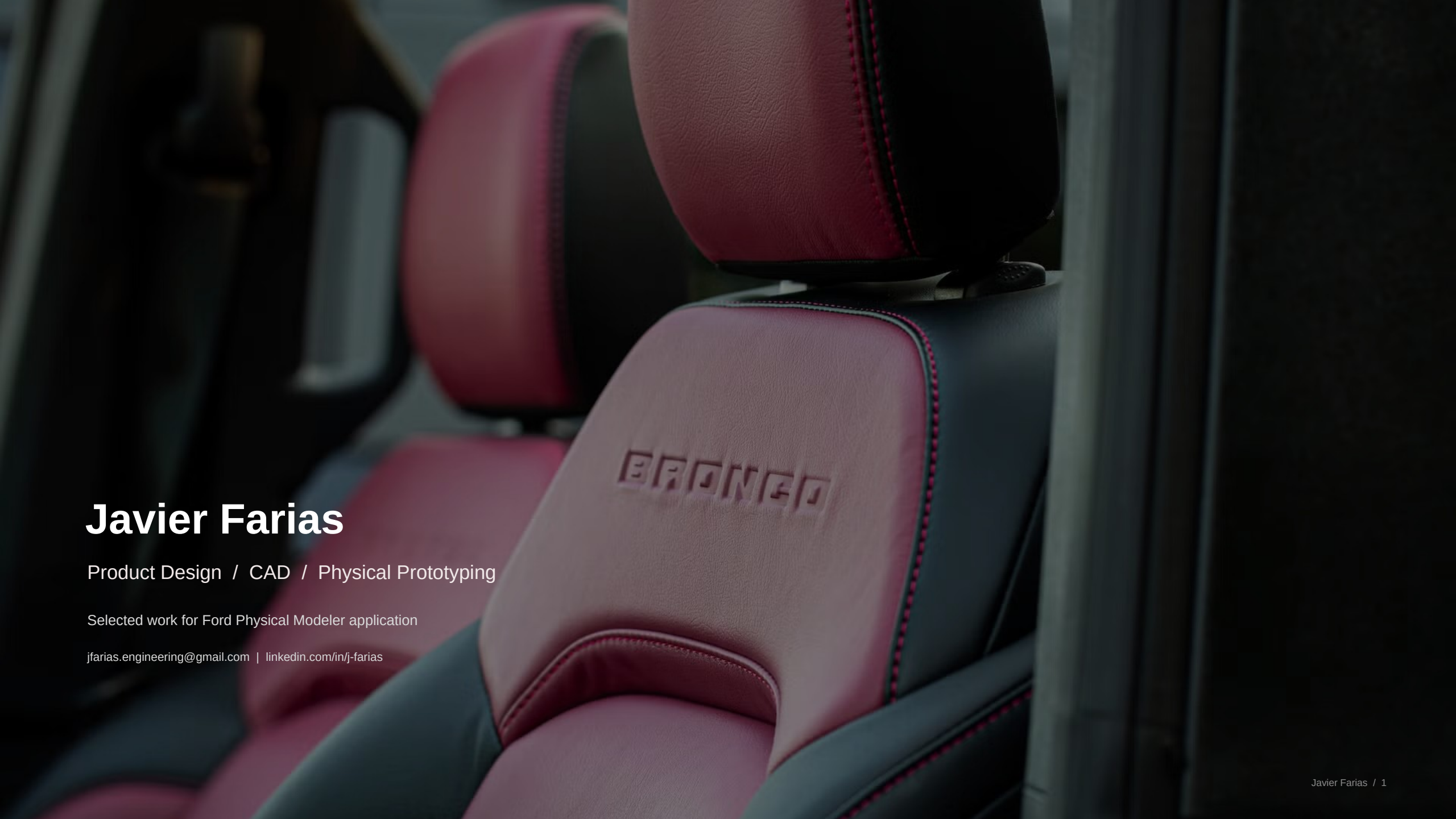




Javier Farias

Product Design / CAD / Physical Prototyping

Selected work for Ford Physical Modeler application

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Ford Bronco Desert Rising



FINISHED PRODUCT

Finished-product imagery: Ford public media release. Development imagery documents pattern development, prototype builds, fit validation, and production release.

Katzkin Automotive Leather

Supported interior product development for a 1,000-unit Ford Bronco Desert Rising upfit program, translating OEM design intent into manufacturable patterns, samples, and production-ready data.

Role focus

Pattern development
Marker creation / nesting
Prototype fit validation
NPI through production release

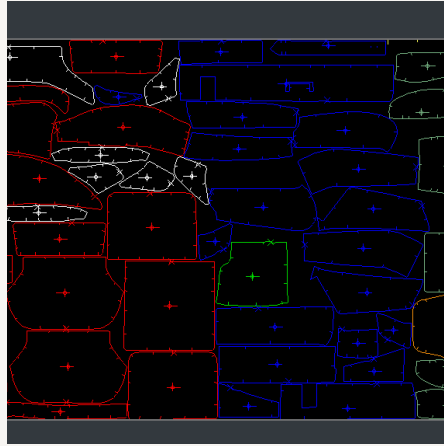
Tools: AutoCAD, Gerber, Lectra, DXF, CNC-ready manufacturing data

From design intent to production



01 PATTERN DEVELOPMENT

Cardstock patterns define panel geometry, seam placement, notches, and construction logic.



02 MARKER / NESTING

Lectra marker data nests pattern geometry into production-ready cutting layouts.



03 PROTOTYPE BUILD

Sewn development samples turn flat patterns into a physical assembly for construction review and iteration.



04 FIT VALIDATION

Mounted samples expose wrinkles, tension, and transition issues that drive pattern refinement.



05 FINAL FIT & FINISH

Approved production surfaces reflect refined geometry, stitching, branding, and material transitions.

Development loop: create geometry → build physical sample → evaluate fit and surface behavior → revise → release.

Prototype development & fit validation



FIT ISSUE IDENTIFICATION

Mounted development samples reveal surface wrinkling, material tension, and transition geometry that require pattern revision before release.



PROTOTYPE BREADTH

Alternate development builds show fit-and-finish validation across multiple material and seat configurations.



REFINED ASSEMBLY

Mounted prototype used to verify overall geometry, seam placement, panel alignment, and visual balance.

Iteration criteria

Surface tension • Seam alignment • Transition geometry
Material behavior • Fit & finish • Manufacturability

Each physical build feeds back into pattern geometry and construction details before production release.

Digital geometry to full-scale form

Design & Fabrication Team | 2018–2022



FOAM + SECTIONING REFERENCE • Different CMU Buggy build • E. Gladding • egladding.com/buggy

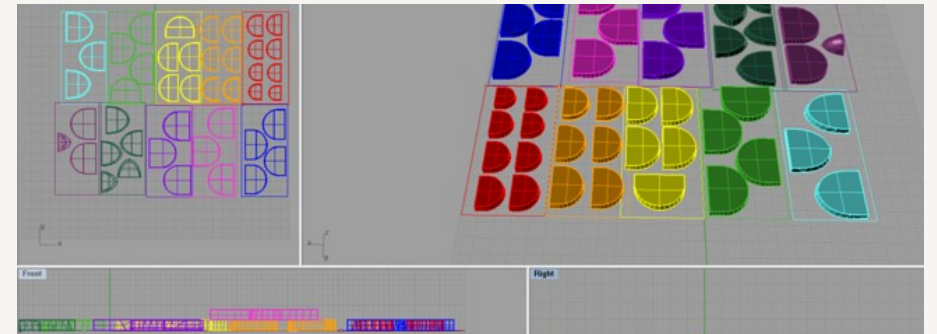
03 FULL-SCALE FOAM MODELING

Built, shaped, and refined full-scale foam forms by hand to realize the designed aerodynamic body geometry before composite construction.



01 DIGITAL BODY GEOMETRY

Aerodynamic vehicle geometry was developed in CAD before physical fabrication.



02 SECTIONING / BUILD GEOMETRY

Sectioned CAD geometry provided a practical bridge from the digital body shape to full-scale physical construction.

Digital model → sectional references → hand-shaped full-scale form

Composite build to finished vehicle



COMPOSITE PROCESS REFERENCE • Different CMU Buggy build • E. Gladding • egladding.com/buggy

04 COMPOSITE SHELL

Full-scale forms supported lightweight composite body construction and subsequent surface finishing.



05 SURFACE FINISHING

Hands-on finishing work prepared the composite body for final assembly and use.



06 FINAL VEHICLE

Integrated lightweight race vehicles were tested and raced at speeds exceeding 40 mph.

Head Mechanic, Fall 2020–Spring 2021 • Coordinated vehicle preparation, testing, maintenance, mechanics, drivers, and pushers across a team of several dozen students.

Javier Farias

Product Design / CAD / Physical Prototyping

Selected capabilities

Automotive interior development
Pattern & marker development
Prototype fit validation / NPI
CAD-to-manufacturing workflows
Full-scale foam modeling
Composite fabrication & finishing
Hands-on machining and prototyping

Autodesk AutoCAD • SolidWorks • Gerber • Lectra • ANSYS / FEA

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