

# Brennan Spinnie

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## Work

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### Workhorse Group (June 2021 – Present)—Mechanical Engineer (Body Structures and Exterior Panels)

**Responsibilities and Projects:** Product development and production release of electric commercial vehicle body components.

- ♦ W56 Step Van—Designed and developed a Class 5/6 electric step van to meet customer's delivery needs in a 21-month complete vehicle design cycle.
  - ◇ Concept Development—Analyzed and selected body concepts based on cost, weight, volume, manufacturability, and customer needs.
  - ◇ Design—Created concepts for body structures and exterior panels. Developed over 20 unique extrusion profiles as the basis of the body structure. Instructed and assisted design team in CAD part creation.
  - ◇ Prototype and Testing—Used rapid prototyping methods to create early critical section concepts. Created full-sized bucks for fitment, regulatory, and durability testing. Reacted quickly to durability testing failures with immediate and long-term solutions.
  - ◇ Production Release—Validated and released over 100 unique BOM parts including aluminum extrusions, molded plastics, sheet metal parts, welded parts, and flat panel composites. Additionally released multiple fasteners and adhesives. Authored GD&T on drawings.
  - ◇ Manufacturing Support—Aided in the launch of the vehicle to manufacturing. Addressed design issues on the production line quickly, reduced costs, and made continuous improvements.

### TriVan Truck Body (May 2017 – May 2021)—Project Designer

**Responsibilities and Projects:** Top-to-bottom design of custom truck bodies, trailers, and enclosures including frame, walls, roof, doors, compartments, electrical, plumbing, etc. specializing in generator enclosure design.

- ♦ Police Command Center—Designed a 16 foot mobile police command center on a Ford E450 cutaway chassis. Included televisions, a bathroom, a kitchenette, and custom cabinetry.
- ♦ 3-Megawatt Generator Enclosure—Designed an enclosure to properly attenuate, ventilate, and contain a 3 megawatt generator weighing 30 tons.
- ♦ Mobile Decontamination Trailer—Designed a trailer to provide showers in disaster areas. Includes accommodations to fit on C-130 aircraft for transport. Collaborated with multiple companies.

## Education

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### Master of Science in Product Development Engineering

Graduation Date: May 20, 2021

University of Southern California

GPA: 3.89

#### Projects:

- ♦ Jigsaw View Port—Developed a safer way to use jigsaws through product design and technical engineering practices.
- ♦ Ramp Door—Optimized a design for an automated ramp door system for commercial trailers with programming, CAD, and other design tools.

**Classes:** Advanced Mechanical Design - Elements of Vehicle and Energy System Design - Materials Selection  
Technology Development and Implementation - Design of Low Cost Space Missions

### Bachelor of Science in Mechanical Engineering and Applied Mechanics

Graduation Date: May 16, 2016

University of Pennsylvania

GPA: 3.39

#### Projects:

- ♦ Knowledge.Dots—Designed and created a proof-of-concept prototype of a tactile braille educational tool for visually impaired children.
- ♦ Robockey—Created 3 completely autonomous robots to play hockey against teams of other robots in a group of 4 engineering students.

**Classes:** Product Design - Design for Manufacturability - Creative Thinking and Design  
Machine Design and Manufacturing - Design of Mechatronic Systems

## Skills

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3D Printing - SolidWorks - NX - AutoCAD - CATIA - AutoDesk Inventor - Product Development - Prototyping  
Composites - Aluminum Manufacturing - Creative Product Design - MATLAB - Excel/Access VBA - GD&T

## Honors, Volunteer, and Leadership

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- ♦ Organized, ran, and executed a campaign to 3D print PPE for the COVID-19 pandemic.
- ♦ Received the USC DEN@Viterbi Merit Scholarship for 2019-2020 and 2020-2021 school years.
- ♦ Licensed Engineer in Training in the state of Washington.