

Eli Carey

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SUMMARY

Early career mechanical engineer with supervised research and applied academic experience creating aircraft style wire harness designs, **cable routing** geometry, equipment rack interfaces, power panel layouts, antenna routing, and installation drawings. CATIA and 3DX work includes modeled harness routes, connectors, clamps, supports, clearances, and revision controlled design updates. Experience includes reviewing functional and **physical inputs**, translating **system architecture** into installation constraints, documenting discrepancies, preparing proposed dispositions, and collecting technical data for work statements and supplier capability comparisons. Clear communication supports productive design reviews with faculty, peers, and fabrication stakeholders. Careful adherence to documented procedures, safety expectations, **configuration control**, and quality checks supports reliable engineering work under supervision. Prepared to contribute sound judgment, steady learning, and practical CAD skills within structured aircraft development programs.

EDUCATION

Bachelor's Degree in Mechanical Engineering

2026

University of Central Oklahoma GPA: 0

Oklahoma City, OK

Coursework: CAD design, mechanical systems, electrical installation, engineering materials, design documentation

TECHNICAL SKILLS

- **CAD Platforms:** CATIA, 3DX, SolidWorks
- **Harness Design:** Wire harness design, cable routing, connector modeling
- **Installation Design:** Electrical installation, equipment racks, power panels
- **Aircraft Interfaces:** Antennas, clamps, brackets
- **Engineering Documentation:** CAD drawings, installation notes, bills of material
- **Configuration Control:** Revision records, design reviews, controlled changes
- **Discrepancy Management:** Rejection tags, production action requests, shop revision requests
- **Systems Engineering:** System architecture, functional inputs, physical inputs
- **Manufacturing Support:** Manufacturing discrepancies, fabrication reviews, installation constraints
- **Supplier Analysis:** Statements of work, supplier capability assessments, technical data
- **Design Verification:** Interference checks, clearance checks, design review records
- **Security Compliance:** U.S. Security Clearance, U.S. Citizenship, U.S. Person status

SKILLS

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|-----------------------|---------------------------|---------------------------|-----------------------------|
| • CATIA | • Cable routing | • CAD drawings | • Design documentation |
| • 3DX | • Electrical installation | • Configuration control | • Clearance review |
| • SolidWorks | • Equipment racks | • Discrepancy disposition | • Technical data collection |
| • Wire harness design | • Power panels | • System architecture | |

EXPERIENCE

Wire Harness Integration Research Assistant

August 2025 - September 2026

University Research Lab

Oklahoma City, OK

Supported supervised aircraft style wire harness integration research through CATIA and **3DX** modeling, installation documentation, discrepancy review, technical data collection, and controlled design presentations. Work connected detailed CAD decisions with fabrication readiness, supplier comparisons, and clear communication among faculty, peers, and lab stakeholders.

- Developed **CATIA** harness routes with connectors, clamps, and supports for supervised **aircraft** style integration studies.
- Created assembly drawings with dimensions and installation notes for lab fabrication and review.
- Documented rack and power panel conflicts, then recorded clearances for design discussion.
- Prepared discrepancy logs and proposed dispositions for faculty engineering review and follow up.
- Collected technical data for work statements and supplier capability comparisons during planning reviews.
- Maintained revision records and presented controlled model changes during design reviews.

Aircraft Electrical Installation Design

January 2024 - May 2025

Capstone Project

Oklahoma City, OK

Completed an integrated academic **aircraft electrical installation design** under project guidance. Combined CATIA routing geometry, equipment interfaces, antenna placement, interference checks, drawings, bills of material, and system architecture inputs into a documented prototype installation concept.

- Created **CATIA** routing geometry for wire bundles across a multi zone mock airframe.
- Modeled **equipment racks**, power panel interfaces, clamps, brackets, and antenna routing for prototype review.
- Ran interference checks and revised geometry after documented design reviews.
- Produced drawings and bills of material for prototype installation sections.
- Translated **system architecture** inputs into physical installation constraints and design notes.
- Presented **integrated design** and discrepancy resolution records to an engineering review panel.

PROJECTS

Aircraft Harness Routing Study 📅 2025

Worked with a student design team to map cable routes across multiple mock airframe zones. Shared modeling tasks, checked clearances together, and used review feedback to improve installation drawings and physical fit.

Installation Interface Review 📅 2024

Collaborated with peers on equipment rack, power panel, clamp, bracket, and antenna interfaces. Open discussion helped resolve routing conflicts before prototype documentation reached review.

LEADERSHIP & AWARDS

- Academic Achievement Recognition, University of Central Oklahoma, 2026
- Student Service Recognition, University of Central Oklahoma, 2025
- Peer Project Team Member, supported shared design reviews and constructive technical collaboration, 2025 to 2026

CERTIFICATIONS

- Microsoft Learn Career Essentials 📅 2026
- CATIA and 3DX Applied Design Training 📅 2026

PROFESSIONAL AFFILIATIONS

- Peer Project Team Member, University of Central Oklahoma, 2025 to 2026
- Community Volunteer, Oklahoma City, 2026

LANGUAGES

- English (Native) • Spanish (Beginner)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST