

# MATTHEW DUBEA

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## SUMMARY

- **Mechanical Engineer** with hands-on experience in **industrial design**, **Lean manufacturing**, **cost estimation**, and **technical analysis** for **chemical plant expansions**.
- Convert field data, specifications, and codes into production-ready **CAD**, **technical reports**, and **QA/QC documentation**.
- Proficient in **SolidWorks**, **CAD/FEA**, **MATLAB**, **Ansys Fluent**, **CFD**, **PFMEA**, and **process optimization** for scalable manufacturing.

## EDUCATION

- **University of Louisiana at Lafayette (ABET)** B.S. Mechanical Engineering — Minor: Mathematics 2020 – 2025
- **UCL & University of Cambridge**, Summer Study Abroad Semester - London, UK 2024

## FIELD EXPERIENCE

1. **Safelite AutoGlass**, Scott, LA — Auto Glass Technician 04/2022 – 01/2024
  - Completed 2600+ installs (98% QA/QC); calibrated 1500+ ADAS and LiDAR systems
  - Reduced cycle time 15% via Lean process improvements and defective material prevention
2. **Ernest P. Breaux Electrical**, New Iberia, LA — Electrician / Machine Operator 02/2019 – 11/2021
  - Installed copper grid, relays, transformers, bus systems, and control wiring for substation conversion
  - Improved alignment 20% by verifying installs against drawings, schematics, QA specs
3. **Granger AC**, Broussard, LA — HVAC Installer 05/2018 – 12/2018
  - Installed and commissioned HVAC systems in 20+ commercial and industrial sites with 100% QA acceptance
4. **Chicago Bridge & Iron Co.**, Plaquemines, LA — Rodman / Instrument Man 02/2017 – 04/2018
  - Surveyed 500+ foundations to  $\pm 1/16$  in & produced as-built data for chemical plant expansion
  - Improved QA data capture rate 25%; supported civil/structural reports with verified data
5. **Triad Electric & Controls**, Plaquemines, LA — Electrical Apprentice 03/2015 – 01/2017
  - Installed 8000+ ft of wire & conduit, 100+ panels with 98% first-pass QA on chemical plant expansion

## LEADERSHIP AND INVOLVEMENT

- **College of Engineering: S.A. Ambassador (ULL)** 2024 – 2025
- **American Society of Mechanical Engineers (ASME)** 2023 – 2025
- **Society of Manufacturing Engineers (SME)** 2025
- **Louisiana Engineering Society (LES)** 2024 – 2025

## SKILLS

- **Engineering:** Lean Manufacturing, Six Sigma (DMAIC), FMEA / PFMEA, Process Flow Diagrams (PFDs), Root Cause Analysis, Process Optimization, QA / QC, Maintenance Engineering
- **Software:** SolidWorks (CAD/FEA), Ansys Fluent (CFD), Fusion 360, CATIA 3DX, MasterCAM, MATLAB, Python
- **Technical:** Tooling Design, Rotating Equipment, CNC Machining, 3D Printing, TIG Welding, Heat Treatment, Sand Casting, Materials Science & Engineering, GD&T, Tolerance Stack-Up, Inspection & Metrology, Technical Documentation, Team Collaboration, Critical Problem Solving, Safety Compliance

## PROJECTS

- **Tricycle Design & Manufacturing Project** (View Portfolio) 2025
  - Designed full CAD, FEA, and production drawing set; optimized for Lean manufacturing and CNC scalability
  - Increased assembly efficiency 20% and reduced material cost 15% via tooling design, PFMEA/FMEA, and DFM
  - Created full production drawing set and BOM for CNC machining, scalable manufacturing, and selective heat treatment

## CERTIFICATIONS (\* = IN PROGRESS)

- **SOLIDWORKS CAD Design Associate** — 3D modeling, FEA, and assemblies 2023 – 2025
- **MATLAB / Machine Learning** — MATLAB programming & ML methods 2024 – 2025
- **OSHA 10-Hour Safety & Health** — Industrial safety standards 2019 – 2025
- **FE EXAM Mechanical\*** 2025\*
- **Lean Six Sigma Green Belt\*** 2025\*



CSWA Certification



Mechanical Engineering



Portfolio GitHub Portfolio



SOLIDWORKS CSWA