

Jasper Buntinx

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EDUCATION

Texas A&M University | *Bachelor of Science, Mechanical Engineering, Mathematics* (GPA: 3.31 / 4.0)

College Station, TX Aug 2023 - May 2027

SKILLS

- **Software:** SolidWorks, CSWA Certified, AutoCAD, OnShape, SolidWorks Simulation, Creo, NX, ANSYS, MATLAB, ParaView, Nvidia Nsight Compute, MS Office Suite, SolidWorks CAM, OrcaSlicer, Fusion 360 CAM, Lightburn
- **Programming:** CUDA, C++, Python, Java, HTML, Claude Code, Hermes, Cursor, Gemini
- **Fabrication:** GD&T, FEA, 3D printing, Woodworking, Metalworking, Soldering, MIG Welding, Injection Molding, CNC, Hand tools

WORK EXPERIENCE

Rochester Sensors (Amphenol Subsidiary)

May 2026 - Present

Mechanical Engineering Intern

Dallas, TX

- Design and optimize CNC toolpaths and machining workflows in CamWorks, including a tooling redesign on a milled component that reduced cycle time by 18% while maintaining all GD&T requirements.
- Conduct environmental quality testing, including thermal cycling, salt spray ingress, and vibration processes to validate long-term field reliability of sensor assemblies.
- Diagnose and resolve design and manufacturing defects on active-development products using SolidWorks, preventing production delays and improving part quality
- Run FEA stress and thermal analyses in SolidWorks Simulation ahead of physical testing, reducing costly design iterations and validating structural integrity early in development.

Waterloo Greenway Conservancy (Austin Creek Show)

May 2022 - Jan 2023

Mechanical Engineering Intern

Austin, TX

- Designed four unique CAD assemblies in SolidWorks from client and artist drawings, enabling production of four large metal dragonfly structures with 14-ft+ wingspans after extensive iteration and prototyping.
- Led fabrication of full-scale dragonfly structures by laser-cutting eight unique wing designs via Fusion 360 CAM, welding 200+ joints, soldering wiring for four LED displays, and producing water-resistant electronics packaging.
- Achieved 30% reduction in peak current-induced forces on creek structures through FEA via SolidWorks Simulate modeling, ANSYS simulation, and general dimensional analysis, significantly enhancing high-wind and flood resilience.

ECOFIL

Aug 2025 - Present

Cofounder/Mechanical Engineer

College Station, TX

- Designed a multi-stage filament recycling system (shredder, dehydrator, extruder) using SolidWorks with GD&T to ensure precise component mating and project functionality.
- Fabricated functional prototypes of the shredder, dehydrator, and extruder by combining 3D printing (OrcaSlicer), CNC milling (SolidWorks CAM), laser cutting (Lightburn), soldering, and MIG welding, which provided working models for performance testing and design iteration.
- Secured incubator funding and material donations from Aggies Create, Tyrex, and the TAMU Meloy program, subsequently managing project finances and materials through detailed BOMs to complete filament recycler within budget and resource constraints in Excel.
- Utilize Arduino controllers, high-voltage AC motors, linear Hall-effect sensors, MOSFETs, PTC heating elements, thermistors, stepper motors, fans, and hygrometers to enable real-time monitoring and control of the recycling process.
- Conducted thermal analysis of dehydrator system via SolidWorks Simulate to optimize dehydration process.

Petrobras

Jun 2025 - Aug 2025

Mechanical Engineering Intern

Florianopolis, Brazil

- Performed AI-driven optimization of CUDA-based LBM CFD simulations, using Claude, Gemini, and NVIDIA Nsight Compute to conduct kernel-level profiling and resolve memory bottlenecks, producing the most efficient LBM simulation worldwide:
- Achieved 400%+ MLUP gains by applying FP64→FP32 migration after validating accuracy to meet minimum simulation tolerances.
- Authored Python geometry generation script for optimized fine-coarse mesh interfaces, lifting peak Reynolds number 33% without degrading MLUP throughput.
- Resolved severe uncoalesced global memory access using AI-guided Nsight Compute memory workload reports and restructuring thread-to-data mapping for 60% warp efficiency improvement.
- Cut peak shared memory 35% (56KB→36KB) after identifying redundant data staging and enabling aggressive reuse across thread blocks.

PROJECTS

Soccer Shots toy (Prototype)

College Station, TX Jan 2025 - Apr 2025

- Designed soccer themed toy involving spring-powered ball launcher and goalie mechanism(SolidWorks), before manufacturing a functional prototype via 3D printing and applying basic assembly methods.

Automatic Retractable RFID Bike Lock (Prototype)

College Station, TX Dec 2025 - Present

- Developing automated locking mechanism integrating Arduino Nano, RFID scanner, solenoids, LEDs, and audio feedback.

VEX U Competition Robots | *Aggie Robotics (Team WHOOP5)*

College Station, TX Aug 2023 - May 2024

- Secured 1st place at 2024 VEX U OVER UNDER State Championship and placement at the World Championship, contributing through AutoCAD schematic redesign and iterative development of an extendable friction launcher to retain, launch, or push Tri-balls as needed.

INVOLVEMENT

One Army Men's Organization | *Build Logistics Chair*

Aug 2025 - Present

- Lead and collaborate with 80+ members in safe fabrication of large-scale obstacles for Gladiator Dash (annual 5k Mud Run).
- Coordinate with treasurer to develop and manage the bill of materials and budget for Gladiator Dash obstacle builds in Microsoft Excel.

Freshmen Leaders in Progress (FLIP) | *Service Chair*

Aug 2023 - May 2025

- Responsible for the recruitment of 56 freshmen, integration of new members into college life, and coordination of volunteer events with entities including local food pantries, schools, and Habitat for Humanity.