

John A. Chiodo
Mechanical Engineer, M.S.
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Work Experience

Engineer, SharkNinja, 2024

- Supported development of automated robot vacuums across mechatronics, autonomous robot control, electromechanical integration, and consumer electronics
- Collaborated cross-functionally to improve reliability, assembly robustness, and design-for-manufacturability outcomes
- Executed performance testing and troubleshooting to drive redesigns and cost-effective component reselection
- Redesigned and prototyped systems around autonomous control and sensing

Systems Engineer, Raytheon Intelligence and Space & Collins Aerospace, Raytheon, 2022-2023

- Supported aerospace/defense programs in a cleared environment; contributed to requirements interpretation, verification planning, and technical documentation
- Assisted with test readiness activities and cross-team reviews to support program milestones
- Projects included satellite communication, ground systems, aerospace systems, team development

Teaching Assistant, Fairfield University, 2022-2025

- Assisted professors with grading, homework, class management, projects, and evaluations
- Courses: Statics, Dynamics, Mechanics Lab, Strength of Materials, Dynamics Systems Lab, Thermodynamics, Thermal and Fluids Lab, Energy Transfer Lab, Senior Design, Industrial Automation
- Significantly redeveloped and improved all course projects, created clear grading structures, incorporated non-course knowledge

Education

Fairfield University

Bachelor of Science: Mechanical Engineering, GPA 3.8

Minors: Mathematics, Physics

Master of Science: Mechanical Engineering with Thesis, GPA 4.0

Fairfield, CT

May 2024

May 2024

May 2025

Publications

Chiodo, J., et al. "Predictive pickup with a monocular wrist camera: Strategies and parameters for dynamic conveyor grasping." *Robotics and Computer-Integrated Manufacturing* 101 (2026) 103305. DOI: 10.1016/j.rcim.2026.103305 ([link](#))

Technical Skills

Electromechanical Systems & Integration: sensor/actuator integration, wiring/harness fundamentals, packaging & assembly, system checkout, troubleshooting

Prototyping & Build: rapid prototyping, hand & power tools, shop safety, welding/metalworking

Analysis & Validation: test planning/execution, structured test matrices, performance trade studies, failure investigation, FEA (ANSYS) + hand calculations

Mechanical Design & Documentation: SolidWorks (parts/assemblies/drawings), DFM/DFA, tolerancing, GD&T fundamentals, BOMs, technical documentation

Manufacturing & Machining: manual mill/lathe experience, CNC (Mastercam/G-code), measurement/verification (calipers/micrometers; shop metrology basics)

Programming & Data Tools: MATLAB, Python (automation/data processing), Excel, Java

Aviation: Student Pilot (PPL)

Engineering Projects (Portfolio: johnchiodoengineering.com)

Graduate Thesis Project, 2024-2025

- Developed an autonomous, vision-based robotic pick-and-place system for industrial automation
- Managed component selection and testbed setup, programmed the system, evaluated methods to improve object recognition robustness for dynamic tracking
- Developed multidimensional predictive algorithms
- Organized and ran comprehensive system testing across multiple variables to improve and quantify system performance and feasibility in industrial applications
- Experimented with the implementation of Artificial Intelligence for the visual, tracking, and pickup system
- Led a team of undergraduate research students, who assisted with research and development
- Full Thesis Paper: <https://www.johnchiodoengineering.com/masters-thesis>

Society of Automotive Engineers Mini-Baja Competition, 2020-2025

- Led a team of students to design, build, and race five off-road racing vehicles
- Assisted in the creation of the team in 2020, then led the team from 2021-2024, and served as Senior Technical Advisor from 2024-2025
- Led team in annual design competition hosted by SAE, which includes strict rules, technical inspection, static and dynamic vehicle events against other universities internationally
- Managed project budget, schedule, sponsorships, advertising, media, and team structure/responsibilities
- Developed full vehicle computer model and ran computer simulations during virtual testing
- Fabricated vehicle personally: tube bending, welding, metalworking, drivetrain assembly, suspension assembly, steering/brakes, frame, electrical wiring
- Iterated suspension/steering/brake components based on testing and failure analysis; implemented design changes under competition deadlines
- Coordinated fabrication and assembly workflow; supported troubleshooting and repairs during race events

Senior Design Project, Fairfield University, 2023-2024

- Worked with three other students to build an adaptive vehicle suspension system incorporating electro-pneumatic, computer, and software components
- Completed dynamic mapping of air suspension performance
- Created and implemented a 9-month project schedule, managed project budget, deadlines, and team responsibilities. Developed project for a marketable product, patent pending

3D-Printed Engine Design Project, Engineering Dynamics Systems Lab, 2022

- Worked with other students to build an engine model capable of accurate piston movement and rotation
- Created and tested multiple prototypes, completed motion analysis, including engine power calculations

Bridge Design Project, Engineering Mechanics Lab, 2021

- Designed and built a 3D-printed truss bridge assembly
- Completed hand calculations and computer simulation truss analysis of bridge members
- Produced and tested prototypes to improve overall design, created the strongest bridge amongst other groups

Leadership Experience & Awards

Co-Founder, President & Technical Director, Society of Automotive Engineers, 2021-2025

Team Leader, Lockheed Martin Ethics in Engineering Competition, 2024-2025

Vice President, American Society of Mechanical Engineers, 2022-2024

Outstanding Academic Performance in Mechanical Engineering, Fairfield University 2025

Dean's List, Fairfield University 2020-2025

Loyola Scholarship, Fairfield University 2020-2024

Eagle Scout, Boy Scouts of America 2019