

# TONY CARPENETTI

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## DESIGN ENGINEER

A creative Design Engineer with 8 years of diverse experience. Developed vehicle integrations for NASA's Space Launch System (SLS) Artemis Program on the ESSCA Contract. Strong personal skills with experience working in highly technical, multidisciplinary teams. Continuous learner, troubleshooter, and experimenter.

Core competencies include Product Design, Project Management, Verbal and Written Communication, Documentation and Presentation, Code Writing / Interpretation / Debugging, Data Analysis, Website Development, Graphic Design, CAD Modeling and Simulation, FEA, Geometric Dimensioning and Tolerancing (GD&T), Technical Writing, Critical Thinking, Continuous Improvement, and Public Speaking

## CAREER HIGHLIGHTS

- Lead the design, production, and implementation of motor lid retrofit which avoided new tooling and reduced project costs by \$20,000
- Received Outstanding Task Award for successful delivery of NASA's Space Launch System (SLS) Block 1B Vehicle Integration MICD
- Selected for competitive Technology Excellence Development Program – nominated for outstanding young professional award

## PROFESSIONAL EXPERIENCE

**BEVILACQUA RESEARCH CORPORATION (BRC)** Huntsville, AL (40hrs/week) **FEB. 2021 – PRESENT**

**Mechanical Design Engineer [NASA's ESSCA CONTRACT with AMENTUM SPACE EXPLORATION DIVISION (ASED)]**

- Reviewed product deliveries for ground- and flight-side components supporting the NASA Block 1B Launch Vehicle and EUS Umbilicals
- Delivered Mechanical Interface Control Drawings (MICDs), Interface Detail Products (IDPs), and Procurement Control Drawings (PCDs)
- Developed software solutions which reduced the data validation and acceptance timeframe by 50% and eliminated human error inputs
- Reconfigured customer Engineering Parts List (EPL). Re-designed and improved formatting to increase visibility, accuracy, and usability

**REGAL REXNORD** Tipp City, OH

(40hrs/week) **NOV. 2018 – FEB. 2021**

**Mechanical Design Engineer**

- Drove the innovation of a new hall sensor mounting solution to overcome limited spacing, which initiated technology patent research
- Managed ball bearing project from design conception through CAD modeling and simulation, benchmarking, comparison testing, supplier quoting, and manufacturing. Fulfilled customer needs for a sturdier motor within the same frame size and price bracket
- Utilized VAVE workshops and projects, 80/20 methodology, and lean engineering principles to support \$37.61M in cost-out savings

**HITACHI ASTEMO** Mt. Sterling, OH

(40hrs/week) **SEPT. 2017 – NOV. 2018**

**Project Engineer**

- Implemented a robotic arm into the manufacturing line which reduced assembly time and scrap count and resulted in fewer trouble reports and less downtime. Performed programming and troubleshooting on the robot and associated HMI to mesh with production
- Led lifecycle management and new product releases for a tier-1 OEM automotive manufacturing supplier, ensuring quality and delivery
- Designed process improvement solutions such as assembly support fixtures and jigs, installation and repair of production line machines, and streamlining of production part flow paths for increased ergonomics and cost-efficiency

## SKILLS AND TOOLS

**PROGRAMMING & WEBSITE DEVELOPMENT SOFTWARE:** Git, GitHub, HTML, CSS, JavaScript, Typescript, Python, Visual Basic, SQL, C++, C

**CAD & SIMULATION TOOLS:** CREO, SolidWorks 3D, ANSYS FEA, AutoCAD, LabVIEW, MATLAB & Simulink, Windchill PLM, Mathcad

**CREATIVE:** Affinity (Designer, Photo, Publisher), Digital Audio Workstations (Ableton Live, FL Studio), Adobe XD, Canva, 3D Printing

**MISCELLANEOUS:** Microsoft Office Suite (Word, Excel, PowerPoint, Project, Outlook, OneNote, Teams), Scrum, Agile, Kanban

## EDUCATION

**WRIGHT STATE UNIVERSITY** Dayton, OH

**AUG. 2013 – MAY 2017**

**B.S. Mechanical Engineering** | *Honors Diploma, GPA: 3.53*

## COMMUNITY LEADERSHIP

**STEM Advocate** – Delivered Mechanical Engineering presentation to 100s of students at Alma Mater HS Career Expo, fostering STEM interest.

ASED Careers Network (ACN), ASED Mentor Peers Program (MPP), Marshall Early Career Organization (MECO), EV Connects Member.

**Local Church Leader** – Mentoring young adults, preparing weekly study content, developing digital content, playing on the worship team, recording voice-overs, acting in creative videos, church building renovation activities, tornado cleanup efforts, childcare services.

**Technology Expert / Googler** – The go-to person for fixing various technical difficulties for friends and family. Troubleshooting internet connectivity, computer hardware and software issues, cell phones, household appliances, and DIY home improvement and repair. Created documents for reward programs, wedding invitations, vacation plans, PTO use, finance budgets, VPN tracking, and timesheets.