

# TONY CARPENETTI

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## DESIGN ENGINEER

A creative Design Engineer with 7 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 and multidisciplinary teams. Continuous learner, home lab and server developer, code troubleshooting enthusiast, and Googling expert.

Core competencies include Project Management, Verbal and Written Communication, Presentation and Report Development and Delivery, Product Design, Code Writing / Interpretation / Debugging, Data Analysis, Website Development. Graphic Design, CAD Modeling and Simulation, FEA, Technical Writing, Critical Thinking, Continuous Improvement, and Public Speaking.

## CAREER HIGHLIGHTS

- JSEG Outstanding Task Award for work supporting NASA's Space Launch System (SLS) Block 1B Vehicle Integration & Structural Design
- Selected for competitive JSEG Technology Excellence Development Program and nominated for outstanding young professional award
- Saved \$20,000 on a project through designing the retrofit of an existing motor part to prevent a new standalone tooling purchase

## PROFESSIONAL EXPERIENCE

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

**Mechanical Design Engineer [NASA's ESSCA CONTRACT with JACOBS SPACE EXPLORATION GROUP (JSEG)]**

- Delivered Mechanical Interface Control Drawings (MICDs), Interface Detail Products (IDPs), and Procurement Control Drawings (PCDs)
- Produced software solutions to analyze multiple iterations of customer input, reducing the data validation and acceptance timeframe
- Reviewed product deliveries for ground- and flight-side components supporting the NASA Block 1B Launch Vehicle and EUS Umbilicals
- Reconfigured customer Engineering Parts List (EPL) product structure format to increase usability & simplify the flagged notes section

**REGAL REXNORD** Tipp City, OH

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

**Mechanical Design Engineer**

- Drove innovation with a new hall sensor mounting solution to overcome limited spacing, which initiated technology patent research
- Managed the 6206 bearing project through design conception, CAD modeling and simulation, benchmarking, comparison testing, supplier quoting, and manufacturing- fulfilling the customer's need 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, resulting in fewer trouble reports and less downtime. Performed programming and troubleshooting on the robot and associated HMI to mesh with production
- Oversaw lifecycle management and new product releases representing a tier-1 OEM supplier in the automotive manufacturing field
- Designed process improvement solutions for the associates and the company, such as creating assembly support fixtures, repairing and installing production line machines, and streamlining production part flow paths for increased ergonomics and cost-efficiency

## SKILLS AND TOOLS

Git, GitHub, HTML, CSS, JavaScript, Python, Visual Basic, Adobe XD, Canva, CREO, SolidWorks 3D, ANSYS FEA, AutoCAD 2D, LabVIEW, MATLAB & Simulink, Microsoft Office (Word, Excel, PowerPoint, Project, Outlook, Teams), Affinity Creative (Designer, Photo, Publisher), Digital Audio Workstations (DAWs - Ableton Live, FL Studio), UI/UX Design

## EDUCATION

**WRIGHT STATE UNIVERSITY** Dayton, OH

**AUG. 2013 – MAY 2017**

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

## COMMUNITY LEADERSHIP

**STEM Advocate** – Gave Mechanical Engineering presentation to aspiring STEM high school students at Alma Mater Career Exposition.

JSEG Careers Network (JCN), JSEG 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.