

# **Nathan Ryley Tharp**

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## **OBJECTIVE:**

Motivated, dedicated, and reliable recent mechanical engineering graduate actively pursuing entry level positions with an innovative technology company and willing to relocate. Seeking to integrate years of diligent work experience with engineering skills from academic and freelance projects to further a passion for designing and testing the tools which further the advancement of mankind.

## **SKILLS:**

SolidWorks and AutoCAD	Machine Design	Leadership and Decision-Making Skills
ANSYS and MATLAB	Finite Element Analysis	Strong Work Ethic and Teamwork Skills
GD&T	Product Testing	Outstanding Presentation Skills
Microsoft Office Suite	Technical Writing	Exceptional Written and Verbal Communication

## **EDUCATION:**

University of Texas at Tyler, Tyler, Texas

Graduated: 05/2020

Bachelor of Science in Mechanical Engineering – Cumulative G.P.A.: 3.4

## **RELEVANT EXPERIENCE:**

University of Texas at Tyler (Tyler, TX)

### **Engineering Team Lead – Robotic Walking Training Device, 07/2019 – 05/2020**

- Conducted research in the bio-mechanical field and found that the market was lacking rehabilitation hardware at an affordable cost for victims of stroke or spinal cord injury
- Developed manufacturing strategies for an electro-mechanical assembly using 2-D and 3-D CAD modeling software, consisting of electric motors, aluminum linkages, and microcontrollers
- Verified customer specifications using Finite Element Analysis techniques in ANSYS and SolidWorks
- Generated documentation and developed presentations for training and design review using Microsoft Office Software Suite and SolidWorks Visualize, leading to a polished and professional demonstration
- Maintained a network of accountability in a multidisciplinary group and delegated specific tasks to ensure completion of deliverables ahead of schedule and within budget
- Self-taught SolidWorks, SolidWorks Visualize, ANSYS, and Autodesk Inventor to complete project to the high standard set for the team, and furthered a passion for design and analysis
- Completed project on schedule and 40% under budget despite setbacks due to Coronavirus

### **Engineering Team Lead – Powered Lift, 01/2019 – 05/2019**

- Designed and manufactured a powered jack that lifted 100 times more than the minimum requirement leading to the team earning 1st place against 10 competing teams
- Project remained within budget and ahead of schedule due to networking and effective management

### **Engineering Team Lead – CO2 Sensor, 08/2018 – 05/2019**

- Developed a CO2 sensor which managed airflow into a room by manipulating a damper for use in demand control ventilation systems for the HVAC industry, leading to greater efficiency and lower consumer cost
- Self-taught Arduino coding language and developed an excitement for programming which persists to today

### **Engineering Team Lead – Walking Robot, 08/2018 – 12/2018**

- Designed, assembled, and wired a 6-legged walking robot for both speed and agility which earned 1st place in competition against 8 teams by traversing a course the fastest
- Enjoyed overcoming obstacles, as well as gaining experience in robotics which aided in future endeavors
- Completed project 1 month ahead of schedule due to excellent team coordination, allowing for further optimization and providing the edge necessary to supersede the design of other teams

### **Team Member – Cable Camera, 01/2018 – 05/2018**

- Assisted in development of a cable camera for use in recreational or professional videography
- Generated a design presentation video to convey design, specifications, and uses to customers
- Utilized outside resources to learn Adobe Premiere Pro which increased quality of presentations

## **WORK EXPERIENCE:**

Centene Corporation (Tyler, TX)

### **Advanced Claims Analyst**

- Utilized Microsoft Excel and Access to analyze payments of medical insurance claims often exceeding \$1,000,000 daily and completed claims up to 3 times faster than others in the department while maintaining greater than 99% accuracy and zero audits

MotoPhoto Portrait Studio and Photo Lab (Tyler, TX)

### **Lead Lab Technician**

- Maintained industry grade printers and performed quality assurance on all customer projects which led to community trust and repeat business for a small company, resulting in annual profits in excess of \$300,000

PC-ER (Tyler, TX)

### **Computer Repair Technician**

- Designed and assembled consumer-grade computers to customer specifications and repaired defunct computers by troubleshooting and replacing hardware as needed, often handling multiple projects simultaneously

21<sup>st</sup> Century Systems (Katy, TX)

### **Installation Technician**

- Installed high performance home theater equipment, security systems, whole-house audio, and ethernet lines both during and post-construction while ensuring continuity of various integrated systems with budgets for the projects often exceeding \$50,000

## **VOLUNTEER WORK:**

U.S. Naval Sea Cadet Corps (Tyler, TX)

### **Instructor**

- Instructed children, ages 11 to 17, in the methods set forth by the military, such as chain of command, hard work, perseverance, and respect for themselves as well as their fellow cadets. Additionally, assisted with instruction of S.T.E.M. related projects as well as business skills such as salesmanship.

Habitat for Humanity (Tyler, TX)

- Helped to construct a home for a low-income family from the community. Built walls to specifications under supervision from construction personnel.

## **EXTRACURRICULARS:**

Kappa Kappa Psi, Zeta Xi Chapter (Tyler, TX)

### **President**

- Organized fraternity projects such as fundraising, volunteer, and community involvement events
- Ran and moderated meetings using guidelines under Robert's Rules of Order

Tyler Junior College Marching Band (Tyler, TX)

### **Trumpet**

Tyler Junior College Jazz Band (Tyler, TX)

### **Lead Trumpet**

## **RELEVANT COURSEWORK:**

- Polymeric Materials Science
- Computational Fluid Dynamics and Heat Transfer
- Robotics, Vision and Control
- Vibrational Systems
- Materials Science and Manufacturing
- System Dynamics and Controls
- Mechanical Systems Design
- Engineering Design Methodologies
- Thermodynamics I and II
- Mechanics of Machinery