

# ZACHARY BROWNE

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I aim to use my engineering degree to pursue a career in mechanical design with a strong focus in design for manufacturing. I work hard to not only maintain my skills but to aggressively expand my skill tree. If you are interested in a hardworking and proven young engineer, please do not hesitate to contact me.

## EXPERIENCE

**FEB2019 – PRESENT**

**MECHANICAL DESIGN AND MANUFACTURING OF SCIENTIFIC APPARATUS,**  
TEXAS A&M TEES TURBOMACHINERY LABORATORY

I provide graduate and post-doctoral students with custom designed solutions for many different problems that we face. We study chemical kinetics of combustion via various test and characterizing methods. I have assisted with the design and assembly, of test apparatus, complex laser diagnostic systems, gas handling systems, ignitors, electrical systems. Competent and licensed handling and manufacturing explosive mixtures. Understanding of design for high pressure applications with pneumatic or electrical control. Interested in design for manufacturing. Website: [petersengroup.tamu.edu](http://petersengroup.tamu.edu)

**2016 – FEB2019**

**LEAD VIDEOGRAPHER,** TEXAS A&M UNIVERSITY CORPS OF CADETS

Was responsible for all the video-multimedia content produced by the Corps of Cadets media group. I traveled to most of the away games with the band. Was responsible for both shooting, editing, and presenting the content in various multimedia forms. Odds are, if you had been to an Aggie football game while I was working, you have seen my work on the Jumbotron when the band plays for halftime.

**2015 – FEB2018**

**FURNITURE SPECIALIST,** SMARTER FURNISHINGS AUS

Traveled all over the United States during the summer and installed furniture for large scale student living facilities. Our company furnished three apartment complexes in College Station: Northpoint, The Cottages, The Junction. This job was heavy manual labor, typically a team of 15 could unload, build and install 50 tons of furniture a day.

## EDUCATION

**SPRING 2021**

**BACHELOR OF SCIENCE IN MECHANICAL AND MANUFACTURING ENGINEERING  
TECHNOLOGIES,** TEXAS A&M UNIVERSITY

My college career has been interesting and challenging. I started out as a freshman making wonderful grades. Sophomore year was difficult for me as a student because I had lost a close

family member around the time of finals. My Junior year I was accepted into the MMET program and have excelled since entering the major. I currently have a 3.0 overall GPA which is lower than I would like it to be however, considering the unusual circumstances I believe it is justifiable. I have worked hard for the university serving in two different, and unique roles over the past five years.

### **SPRING 2016**

#### **GRADUATED HIGH SCHOOL, A&M CONSOLIDATED HIGH SCHOOL**

I have lived in College Station for my whole life; this has allowed me the opportunity to make good connections and opportunities at the university. In high school, I was involved with two colligate level research projects. In my senior year we published our findings in the journal of immunology and flew to Seattle to present our findings at the AAI conference. I also volunteered/shadowed graduate students under Dr. McShane in the biomedical engineering department; they were studying implantable chemo optical multimodal transducers.

## **SKILLS**

- Good monetary skills
- Fluent with popular CAD & CAM programs
- Good understanding of G-code
- Capable of running typical CNC's however more comfortable with HASS controls
- Proven ability to understand and communicate high intensity concepts.
- Familiar with multiple different programming languages.
- Design for high pressure, high temperature.
- GD&T, Tolerance, welding symbols, six sigma, lean manufacturing, etc.
- Extensive shop experience mill, lathe, welding, CNC.
- Experience with plasma, lasers, and dangerous gas mixtures.
- Understand design for manufacturing and cost associated with manufacturing techniques.

## **ACTIVITIES**

I am involved with Twelve service organization. I have been involved for two years. This is a group made up of about 50-70 students with various majors and ages. We serve the community by volunteering at different events. Our service project this year is Tiny Hope Village; we are helping establish community housing for homeless people in our community. Volunteer work thus far has been manual labor helping clear land for the project. We will eventually be helping build the tiny houses and community from the ground up.

## **PROJECTS**

- Shockwave characteristics of hydrogen detonation
- Injection of heavy oils into double shocked end wall region
- Design of heated flammability limit test rig. Rated for 2000 PSIA @ 200°C
- Harriet multi-pass spectroscopic absorption laser cell
- Multiple Ignitor Designs
- Octo-port shock tube end wall section.
- Corps of Cadets Game Day Experiences [tx.ag/NlanM4Y](http://tx.ag/NlanM4Y)
- 2018 Corps Recruiting video [tx.ag/mle8SUv](http://tx.ag/mle8SUv)
- The Corps Experience 2018: Game5 – vs Ole Miss [tx.ag/iezf1Z](http://tx.ag/iezf1Z)