# Gabriel Chapel

## Contact Info

**(303) 918-5681**
**gabe.chapel@gmail.com**
***https://gabechapel.com***

## Skills

**Mechanical Design**
- CAD (Solidworks, Fusion 360)
- FEA (Solidworks, Abaqus)
- Design for Manufacturability
- Design for Assembly
- GD&T
- Rapid Prototyping

**Manufacturing**
- Machining
- 3D Printing
- Laser Cutting
- Soldering

**Technical Documentation**
- LaTex
- Microsoft Office

**Microcontrollers**
- Arduino
- Raspberry Pi
- Micro:bit

**Programming**
- Python
- MATLAB
- Mobile App Development (Swift, Java)
- Web Development (HTML, CSS, JavaScript)

## Interests

**Music**
Performing, writing, producing with band "Still Single"
***https://tinyurl.com/StillSingle1***

**Sports**
Skiing, backpacking, rock climbing, flying

**Volunteering**
Mission Travel – Amor home building in Tijuana, Mexico

I am seeking a challenging design position in a dynamic work environment where I can apply my multidisciplinary skillset to multifaceted engineering problems. My MS degree program in Creative Technologies and Design, as well as my previous graduate and undergraduate work in Mechanical Engineering, has provided broad and engaging experiences in mechanical design/analysis, electrical design, requirements assessment, controls analysis, and computer programming. I enjoy collaborative problem solving as a part of a diverse team, drawing upon skills and abilities from various backgrounds.

## Experience

### Research Lab Mechanical Engineer — June 2018 - Present

*University of Colorado Boulder—Donaldson Lab*

**Responsibilities:**
- Collaborate with microbiology scientists to understand requirements, iterate and trade design options, and develop innovative research equipment
- Design, fabricate, and test mechatronic systems for behavioral studies
  - Design featured on Denver's 9News (***https://tinyurl.com/9NewsVideo-1***)
- Mentor, train, oversee, and delegate work to undergraduate engineers

### Graduate Research Assistant — May 2016 - May 2018

*Laboratory for Atmospheric and Space Physics*

**Responsibilities:**
- Simulation analysis for Emirates Mars Mission (to be launched in July 2020)
- Develop kernel files for Attitude Determination and Control mission scenarios
- Develop scenario visualization tool using Cosmographia

### Undergraduate Lab Assistant — Jan 2014 - May 2015

*University of Colorado Boulder—Aerospace Unmanned Aerial Vehicle Lab*

**Responsibilities:**
- Design and fabricate UAV ground antennas
- Design and fabricate shipping containers for UAV equipment transport

## Education – University of Colorado Boulder

### MS in Creative Technologies and Design (3.91 GPA) — May 2020
- Emphasis on mechanical, electrical, and software design and development
- Focus on interdisciplinary design collaborations

### MS in Mechanical Engineering (3.86 GPA) — May 2018
- Emphasis in Systems and Controls Analysis/Design

### BS in Mechanical Engineering w/ Electrical Engineering — May 2017
- 3.58 GPA
- Major in Mechanical Engineering, Minor in Electrical Engineering

**Relevant Coursework**

- Design for Manufacturability
- Graduate Design (Children's Hospital)
- Advanced Product Design (User centered)
- Senior Design (ShoeSense Running)
- Circuits as Systems
- Electronics Design Lab
- Mechatronics
- Finite Element Analysis
- Optimal Design
- Computer Vision
- System Dynamics
- Linear Systems
- Feedback Control
- Spacecraft Design (ADCS Lead)

## Honors and Awards

- Inventor on patent submission for Children's Hospital medical device
- BOLD, Esteemed Scholar, and Delbert Jack Scholarships
- Freshman Projects Peoples' Choice Award—Remote controlled hovercraft
- Awarded Eagle Scout rank by Boy Scouts of America