

# CLAIRE APUAN

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 claireapuan.github.io

 (812) 604-5932

 Denver, CO

## EDUCATION

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Thayer School of Engineering  
at Dartmouth College  
Hanover, NH  
June 2019

Dartmouth College  
Hanover, NH  
November 2018

## PROJECTS

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Thayer School of Engineering  
Hanover, NH  
March - June 2019

Thayer School of Engineering  
Hanover, NH  
September 2017 - January 2019

Wegst Biomimetics Lab  
Hanover, NH  
March - June 2017

## HONORS

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Journal of Sexual Medicine  
Miami, FL  
November 2018

Thayer School of Engineering  
Hanover, NH  
June 2018

Society of Women Engineers  
October 2017, 2018

## LEADERSHIP

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Society of Women Engineers  
Hanover, NH  
January 2015 - Current

Dartmouth Outing Club  
Hanover, NH  
September 2014 - Current

## SKILLS

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**Expert:** MATLAB, SolidWorks, Mathematica, MS Suite (Word, Excel, PowerPoint), Photoshop  
**Intermediate:** FDA Approval Pathway, FPGA/VHDL, Python, CSS/HTML,  
**Interests:** Surgical device innovation, Rock climbing, Aerial silks, Baking

### Bachelor of Engineering concentrating in Biomedical Engineering

- Major Coursework: Biomechanics, Intermediate Biomedical Engineering, Biological Physics, Medical Diagnostics and Monitoring
- Observation of Partial Knee Arthroplasty at DHMC

### Bachelor of Arts in Engineering Sciences

- Major Coursework: Systems, Solid Mechanics, Numerical Analysis, Differential Equations, Linear Algebra, Calculus III, Digital Electronics, Foundations of Mathematics in Computer Science, Cell Structure and Function

### Development of MR-Guided Robotically-actuated C1-C2 Fusion, *Robotics Lead*

- Demonstrated proof of concept for an image guidance system, a real-time feedback system, and a robotic translation system that actuates a pneumatic drill
- Worked directly with a surgeon and engineering team for the robotic translation system
- Used Matlab and DH parameters to program a robotic arm with 6 DOF

### Rethinking Solutions to Erectile Dysfunction with Coloplast, *Lead Author*

- Worked with patients and a surgeon to reinvent a three-piece inflatable penile implant
- Collaborated with a 3-person engineering team and R&D engineers at Coloplast
- Created a works-like prototype that provides an erection with axial rigidity to sustain a 3.3lbf load and a 17% increase in girth in 60 seconds
- Designed a looks-like prototype in SolidWorks

### Investigation of Feasibility of Thermally Cross-linking Chitosan, *Research Assistant*

- Researched and analyzed an optimal sample preparation method of thermally cross-linked Chitosan tissue scaffolds for biomedical applications
- Skills used: mechanical analysis, instron testing, biomedical-level sample making procedure, SEM, autoclave, NMR spectrometry

### Sexual Medicine Society of North America's (SMSNA) 19th Annual Meetup, *Speaker*

- Presented as the lead author on my team's solution to erectile dysfunction

### Brianna S. Weinstein Engineering Design Prize, *Award Recipient*

- Recognized my team for demonstrating outstanding design skill to address the needs and challenges of people with physical disabilities

### World's Largest Conference for Women Engineers, *Dartmouth Representative*

### Founding Member, *(Former President 2018, Vice President 2017, Secretary 2016)*

- Reinstated the Dartmouth chapter after a 16 year hiatus
- Led alumni panels, study groups, small projects, and networking events

### Trad Leader, *(Former First-Year Trips Directorate Staff 2017, Chair 2017)*

- Managed risk, group dynamics, and logistics for international climbing trips
- Updated Mountaineering Club safety standards in accordance with the American Mountain Guides Association