

# JOANNA MA

• user-centric mechanical engineer •

## SUMMARY

Process-driven engineer who thrives to create human experiences that transform people's lives. 5+ years of experience in the medical device, biotech + wellness space working on physical + digital products at all phases of the product development process, including experience with the FDA regulatory environment for Class II medical devices. Seeking a collaborative, innovative, enthusiastically-curious team where I can grow + utilize my breadth of knowledge in design, prototyping, user-centered design, project management, testing, data analysis + software.

## EXPERIENCE

- Mar 2019** **Software Verification Tester**  
**Dec 2019** Channel Medsystems | Emeryville, CA
- Performed 100+ software verification protocols using hardware lab equipment (oscilloscope, power supply, DMM, etc.) and performed detailed data analysis to provide data for PMA submission to enable use of Class II endometrial ablation device in the clinic
  - Worked cross-functionally with engineering, manufacturing, software and quality assurance teams to improve device software, test fixtures and software tools used to perform verification testing
- May 2015** **Mechanical Design Engineer**  
**Mar 2019** Consultant | Oakland, CA
- Used Solidworks to develop a novel accessory for an ultrasound probe device in Solidworks to streamline cardiac procedures in the clinic
  - Designed and built prototypes using LEDs, OLED panels and Arduino to create a more cost-efficient display for electric vehicle charging stations
- Jul 2017** **Mechanical Engineer, Project Manager**  
**Aug 2018** Cypre | San Francisco, CA
- Brought 6 iterations of bioprinters from concept to production in 9 months by leading team meetings and design reviews with engineering and management, and developing detailed project plans and product requirements to facilitate timely product builds
  - Fabricated, developed and troubleshooted electromechanical and firmware components for 28 units, shipping 27 of those units to pharmaceutical clients
  - Cut low-volume manufacturing costs by 25% by negotiating with external suppliers (3D printing, urethane casting, CNC machining, sheet metal forming, anodising) and optimizing materials selection with senior engineers
  - Reduced unit assembly time from 1 day to several hours by establishing new procedures and protocols for assembly, quality control & shipping to track inventory, improve workflow and oversee distribution of products
- Mar 2015** **Research Associate**  
**Mar 2016** Orthopaedic Trauma Institute | San Francisco, CA
- Evaluated 10+ novel orthopaedic technologies for medical device companies, surgeons and research institutions by building mechanical testing fixtures and executing ISO standard verification tests, preparing clients for FDA submissions and potential clinical use
- Sept 2012** **R&D Engineer**  
**July 2013** NanoNerve, Inc. | Berkeley, CA
- Designed, developed and implemented ASTM standard testing setups to verify mechanical properties of Class II nano-patterned grafts for FDA 510(k) submission
  - Collaborated with neurosurgeons, clinicians, regulatory advisors and potential strategic partners on user needs research, risk analysis, verification & validation testing, mechanical benchtop testing, manufacturing, and clinical regulatory submissions to deliver device to market
- Nov 2014** **Community Manager, Designer**  
**Dec 2015** Dance4Healing | Sunnyvale, CA
- Created functional prototype of virtual dance platform for an early-stage healthcare startup working towards clinical trials on creative arts therapy for cancer patients
- Jan 2014** **Interface Designer, Content Associate**  
**Feb 2015** Confihealth | Burlingame, CA
- Worked with a team of developers, designers and content strategists to design and implement HealthyBee website in 6 weeks from initial concept to launch
  - Led user interviews and usability studies to create personas and curate database of 300+ products, educational articles, and original content to help 1,200+ first-time parents discover smart baby tech products

## ADDITIONAL EXPERIENCE

- Nov 2014** **Community Manager, Designer**  
**Dec 2015** Dance4Healing | Sunnyvale, CA
- Created functional prototype of virtual dance platform for an early-stage healthcare startup working towards clinical trials on creative arts therapy for cancer patients
- Jan 2014** **Interface Designer, Content Associate**  
**Feb 2015** Confihealth | Burlingame, CA
- Worked with a team of developers, designers and content strategists to design and implement HealthyBee website in 6 weeks from initial concept to launch
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## EDUCATION

- 2018 - Present | Laney College  
Machine Technology
- 2013 | University of California, Berkeley / UCSF  
MS Bioengineering, Translational Medicine
- 2012 | The City College of New York  
BE Biomedical Engineering

## SKILLS

Product Development  
Verification & Validation Testing  
Rapid Prototyping  
Low-Volume Manufacturing  
Project Management  
User Research  
Usability Testing

## TOOLS

- CAD**  
SolidWorks, Fusion 360
- Prototyping & Manufacturing**  
Manual machining (mill, lathe), 3D printing (FDM, SLA), Laser cutting, Silicone cast molding, Arduino
- Testing**  
Oscilloscope, Power supply, DMM, Micrometer, Caliper, Digital thermocouple thermometer
- Programming**  
Arduino, MATLAB, LabVIEW, HTML, CSS, JavaScript, Python, Git

**Project Management**  
Asana, Trello, Notion, Miro

## LEADERSHIP & AWARDS

- Mar 2020 | WorkWell  
Co-Team Lead for WorkWell Graduates
- May 2018 | Udacity  
Bertelsmann Data Science Challenge Scholarship
- Jan 2018 | Udacity  
Grow with Google Developer Challenge Scholarship
- May 2017 | Oakland Indie Awards  
Nominee for Innovative Newcomer, It's Jo Cake!
- Mar 2016 | IDEO  
Bits + Blocks Makeathon Participant
- Apr 2013 | UC Berkeley  
Bplan Competition, Semifinalist
- Apr 2012 | NYS Education Dept  
EIT Certified #089253

## INTERESTS & HOBBIES

Founder & Cake Engineer, It's Jo Cake!  
Founder & Chief Card Maker, It's Jo Card!  
FIRST Robotics Mentor, Team 4159  
Outdoor rock climbing