



Electromechanical Engineering Intern

Location: San Francisco, CA

Duration: 12 weeks (Summer 2019)

About D-Rev

At [D-Rev](http://www.d-rev.org/) (<http://www.d-rev.org/>) we believe good health is a human right. The need for quality healthcare spans the economic spectrum. Regardless of where you are from and what you do, health is critical to well-being, productivity, and autonomy. We exist to design and deliver medical technologies that close the quality healthcare gap for underserved populations.

We are a portfolio design company that prioritizes the user in the development of products, and have been recognized by Fast Company as one of the World's Most Innovative organizations and the World Economic Forum as a Technology Pioneer. The scaling of our first product, Brilliance, is monumental in global health – it is one of the earliest examples of a nonprofit-developed global health product scaling and impacting the world's poorest patients. Nearly 90% of the [500,000](http://d-rev.org/impact/brilliance/) (<http://d-rev.org/impact/brilliance/>) patients treated with our Brilliance Phototherapy product would not have otherwise received effective treatment.

Our New Product Development work is focused in the neonatal respiratory and nutrition health areas for the treatment of at-risk, low birth weight newborns. We plan to accelerate portfolio expansion to close ten globally critical health gaps by the year 2030, the target year of the UN's Sustainable Development Goals.

About the Problem

Respiratory distress syndrome (RDS) is responsible for the majority of the 1 million babies that die each year from prematurity related causes. Over 3 million newborns each year need help getting oxygen to their body through respiratory support devices like CPAP.

Current medical equipment is designed for US healthcare settings, assuming sufficient staffing and resources. Thus, even when equipment is available in low resource settings, it often goes unused given lack of training, staffing, or other resources. In these settings, staff are overburdened and need tools that are easy to learn and easy to use. Another major challenge is cost. Unaffordable devices lead clinicians in low resource settings to fashion their own "Bubble CPAP" devices with a bottle and straw. These devices seem simple to use, but lack key features required for safe treatment. We aim to end newborn deaths from RDS by designing context-appropriate CPAP equipment ([additional information](#)). (<http://d-rev.org/projects/respiratory/>)

About the "Smart" CPAP Project

We want to create a design for our product that reaches a middle ground, as an affordable device designed for under-resourced settings. We will ensure our device is radically easy to use and operate to spur user adoption and achieve large scale social impact.

The engineering team here at D-Rev is currently hard at work on designing and testing a working prototype of our CPAP device. Our prototype is has key functionalities up and running but will need significant electrical and electromechanical support before we can initiate formal serial manufacturing production for in patient-use by the end of 2019.



Internship Overview:

We are seeking an electrical/electromechanical intern to play a key role in taking our neonatal CPAP device from prototype to its first production lot for field trials.

Primary Objective: Brainstorming, designing and building electromechanical test setups to test key design requirements

Secondary Objective: Design support to overcome major technical obstacles and answer top user interface questions

Our ideal candidate will have the following qualifications and experience:

- Rising senior or above, returning to school in the fall
- Solid technical background related to design and testing of products
- Tinkerer at heart: Playing with an Arduino / Arm Cortex M4 sounds like fun not work
- Open-minded, quick learner, independent thinker, and takes initiative
- Extremely strong team player.
- Adaptable and comfortable in a fast-paced environment
- Able to break-down and communicate technical concepts to the whole team, most of which will not be engineers

Will have completed the first 3 years of your electrical or electromechanical engineering degree (mechanical engineers with heavy mechatronics experience should still apply)

Experience in the design, building, and operation of electromechanical test fixtures

- Experience with rapid electrical prototyping such as Arduino and physical prototyping equipment such as 3D printers, 80/20, mill, etc
- Exposure to PCB design software such as Eagle, and 3D modelling software such as Autodesk Inventor or Fusion 360

Come join us!

- You'll be able to receive real world, hands on experience.
- Get exposure to the world of designing medical products for under-resourced settings.
- Participate in team-based problem-solving activities and learn cutting edge human-centered design methodologies
- San Francisco (AKA "The City", AKA "SF") is pretty awesome
- Our staff is pretty cool too.

TO APPLY*, submit the following to ctrubo@d-rev.org March 10, 2019*:

- Resume (MUST be no longer than 1 page)
- Cover letter briefly explaining why you're a fit and why you're interested
- Simple portfolio highlighting examples of your engineering work, such as in the design or construction of electromechanical things (please specify your role and key tasks on any group projects showcased)

*Must be authorized to work in the US for the summer and enrolled in the [Autodesk Student Expert Program \(http://www.autodesk.com/studentexperts\)](http://www.autodesk.com/studentexperts) prior to the internship commencing. Hiring process is rolling, so generally applying sooner is better.

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D-Rev is a 501(c)(3) non-profit organization.



D-Rev is an equal opportunity employer. We value a diverse workforce and an inclusive culture. D-Rev encourages applications from all qualified individuals without regard to race, color, religion, gender, sexual orientation, age, national origin, marital status, citizenship, disability, or veteran status.