



Electromechanical Engineer

Location: San Francisco, CA

Contract: 1-year, extension pending business need
60-100% FTE (negotiable)

About D-Rev

D-Rev believes that good health is a human right. 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 patients treated with our Brilliance Phototherapy product would not have otherwise received effective treatment.

About the Problem

Respiratory distress syndrome (RDS) is estimated to be 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.. More information can be found [here](#).

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 design work before we can initiate formal serial manufacturing production for in patient-use by the end of 2019.

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

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



Primary responsibilities will include:

- Modifications to PCB designs and firmware (control loops, [PID](#), motor control)
- Identifying, recommending, and procuring components such as sensors and controllers
- Create engineering drawings and Gerber files to define your designs
- Design of mechanical components such as device chassis and gas pathways
- Proposal and implementation of test procedures to verify performance and reliability
- Work with production house to scale manufacturing from the 10's to the 100's, with product testing execution to ensure scaling does not introduce new manufacturing quality issues

Our ideal candidate will have the following experience:

- 4 years of professional Electromechanical engineering experience
- Experience with PCB design, firmware development, signals analysis, design of closed-loop control systems, PID control, electromechanical test fixtures
- Experience with mechanical design, 3D modeling, and physical prototyping
- Experience transferring electromechanical designs to contract manufacturers
- Working knowledge of designing and executing benchtop tests

Our ideal candidate will have the following characteristics:

- Adaptable and comfortable in a fast-paced environment, quick to jump into new areas
- Independent thinker with a history of taking initiative and a bias towards action
- Able to break-down and communicate technical concepts to the whole team, most of which will not be engineers
- Clear communicator and strong team member
- Ability to travel periodically for ~4-6 weeks annually (quarterly international trips to manufacturer / for user feedback)

How to Apply: Please send the following to Casey Trubo (ctrubo@d-rev.org) and indicate "Electromechanical Engineer" in the subject line

- **Resume:** No longer than 1 page, updated LinkedIn is acceptable in place of a resume
- **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 tasks for projects)

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.