Applications Engineer (Optics/Image Processing)

- Dynocardia is a Cambridge, MA based company founded by a team of engineers and physicians from MIT and Tufts Medical School. Dynocardia is addressing a 100-year old challenge: the need for an accurate and continuous, non-invasive blood pressure monitor. Dynocardia's ViTrack is a first-of-its-kind wearable continuous blood pressure monitor with applications across the healthcare spectrum. The device will allow for predictive, remote patient monitoring, which will enable a continuum of critical care in hospitals and facilitate correct diagnosis and management of hypertension and other chronic diseases (telehealth).

- The Dynocardia is developing and optimizing an optical sensor for real-time 3D monitoring of the radial artery, with which various hemodynamic parameters are extracted.

- The Applications Engineer will have a leading role in the design, development and implementation of novel algorithms and imaging tools for cutting-edge medical applications in the field of blood pressure and other hemodynamic monitoring.

- Please follow the link to learn more about the product: https://www.dynocardia.care

Responsibilities Include

- Drive system-level enhancements for advanced 3D real-time tracking technology of multiple sensors in a complex environment
- Work with concept development teams to explore, model, develop and implement new algorithms.
- Design and develop novel processing algorithms applied to physiological signals, from concept and simulation to fully formed product.
- Lead the optical / imaging system development by closely working with internal team and external design houses.
- Provide technical leadership in algorithm development, imaging system development, and best practices.
- Effectively collaborate across disciplines (electronics, software and mechanical) to focus and maximize end-to-end solution value.
- Play an active role in the cross-functional/departmental effort of defining clinical-feature value proposition.
- Participate in design and execution of preclinical system experiments in the lab, with physicians and third parties.

Preferred Qualifications/Experience

- Masters / PhD in Electrical Engineering/Computer Science, Mechanical Engineering, or Applied Optics, with signal/image processing or algorithm/method development
- Experience with processing physiological signals
- Excellent knowledge of linear/nonlinear real-time systems analysis (time/frequency, estimation and feedback models, digital filter design)
- Prior experience with optimization and inverse problems
- Experience with algorithm development and implementation in Python, Matlab, and C/C++
- Experience with imaging equipment and basic optical design.

- Experience with optical system modeling using software tools such as Zemax is a plus.
- Experience working with free-form optical systems design and development.
- Excellent communication and presentation skills, capable of conveying technical information in a clear and thorough manner

Location

The primary workspace for this position will be at NextCorps' Sibley Square technology incubator in Rochester, NY. It is expected that the employee with be onsite regularly to have access to the tools and capabilities at the facility. Periodic visits to the Newton, MA location will also be expected to facilitate interactions and joint development with key team members.