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Pro Fit Scanner - Precision that Fits, Anywhere

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Prosthetic fitting remains a major challenge, with many users experiencing discomfort, poor alignment, and frequent replacements due to inaccurate measurement techniques. Traditional casting methods are labor-intensive, time-consuming, and often lack precision, resulting in functional and social limitations for amputees. To address this, we propose an innovative sensor-integrated device that measures skin depth, limb length, circumference, bending angle, and surface texture with high accuracy. By integrating advanced ultrasound, infrared, and pressure sensors into a compact PCB- based system, the device provides non-invasive, real-time digital measurements that can be directly used by prosthetic fabricators. This solution reduces reliance on manual molds, cutting both cost and fabrication time while improving comfort and fit. The technology ensures personalized prosthetic design, enhances mobility, and minimizes health complications such as pressure sores or skin irritation. Beyond prosthetics, the device has broader applications in rehabilitation monitoring, orthopedic assessments, and biomechanical studies. With strong potential for commercialization, the system addresses a critical gap in the medical device market, offering a scalable, affordable, and patient-friendly alternative to existing methods. Ultimately, it empowers both clinicians and patients, driving social inclusion and improving quality of life for individuals with limb loss.

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