Who we are
Improfit is a B2B2C platform that provides interactive tools based on Artificial Intelligence and Computer Vision, aimed at rehabilitation and training to improve people's quality of life. The software converts images to coordinates and subsequently evaluates human movement behavior. Improfit addresses musculoskeletal (MSK) conditions to improve health.

Job title
Computer Vision Engineer

Job Description
We're in search of a Computer Vision engineer tasked with prototyping and developing solutions of human pose estimation. You will work on state-of-the art 2d and 3d pose estimation models, augmenting and fine-tuning them with custom datasets, as well on the proprietary models and heuristic that Improfit uses to interpret and qualify human motion.

You'll work collaboratively with engineers, developers, and computer vision experts to tackle complex issues concerning human pose estimation on personal computers, mobile and embedded devices. This is a unique opportunity to work alongside highly skilled AI experts and dive into real-world AI software applications, allowing you to develop or enhance your proficiency in this exciting and rapidly evolving field.

A commitment to teamwork in problem-solving, advanced design, and producing high-quality products is vital. In this challenging yet rewarding role, you'll have the chance to push the boundaries of what's possible in the mobile and AI space, catapulting your career to new heights. This isn't just a job—it's an opportunity to grow, learn, and make a tangible impact in AI.

Hybrid working conditions: 60% office (in Barcelona - hospital San Pau) and 40% remote

Responsibilities
- Conceptualize and prototype Python applications according to specifications coming from domain experts (physicians, rehab doctors, fitness coaches) for human body representations (anatomical planes, skeleton-based models, joint angles, etc)
- Work with OpenCV , MediaPipe, OpenPose and other libraries to improve monocular pose estimation, both in 2D and 3D, for full body and hand inference.
- Fine-tune custom pose estimation models leveraging proprietary datasets
- Maintain and improve Improfit core ML and heuristics components for human motion interpretation.

- Use advanced techniques such as multi-camera video capture and RGBD camera to improve Improfit products.
- Strive for the highest performance, quality, and responsiveness of the code you write.
- Assist in maintaining code standards, organization, and automation

Tech Skills

- Understanding of computer vision techniques for human body representation (2D/3D keypoint coordinates, heatmaps, 3D body meshes)
- Deep understanding of perspective camera models, projections and deprojections, camera parameters.
- Experience with Opencv2 library (Python or C++)
- Deep understanding of neural network models applied in image processing (ConvNet, ResNet, MobileNet, YOLO, etc)
- Experience with Python ML and DL stack (SciPy, scikit-kearn, PyTorch, TensorFlow)
- Capability to interpret business needs and convert them into technical specifications
- An aptitude for benchmarking and improving system performance
- Advanced skills in using code versioning tools like Git
- Familiarity with the principles of continuous integration
- At least 2 years of experience in Python development

Send us your CV at: info@improfit.ai