

# Pear Training Intelligence Platform

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## INTRODUCTION

**Technology/Research Overview:** Pear has developed an AI-powered Training Intelligence Platform (TIP) focused on optimizing human performance, fitness and wellness through the delivery of comprehensive, evidence-based, personalized programming supported with fully adaptive guidance and recommendations. The TIP ingests all available data (human inputs, wearable data, environmental data, health data) and develops unique physiological signatures for every user that allows the creation of an adaptive training program perfectly aligned to their own health, wellness and fitness goals.

**Intellectual Property Protection:** Seven issued patents and three patents pending

**Stage of Development:** Advanced research and late prototype

## AIR FORCE APPLICATIONS

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### Postpartum Digital Platform (PDP) – Travis Air Force Base

**Need/Problem:** The 21st century sees more than 200,000 women now on active duty. However, their attrition rate is 28% higher than their male counterparts. Furthermore, despite a pregnancy deferment period of 12 months for fitness testing, 2019 data from ACC's ASIS demonstrated an 8% failure rate and a 50% exemption rate on first time postpartum Fitness Assessments. When faced with the many challenges of having a new child and the stresses of returning to physical readiness without proper support, too many Service Members decide to separate from the Air Force.

**Technology/Research Overview:** We have developed an adaptation to our TIP that provides Airmen Moms with ready access to a digital toolkit to optimize their health and fitness during and after pregnancy. This will not only guide Airmen throughout the pregnancy journey, but these tools and supports will ensure postpartum Service Members are better prepared to rejoin active duty and are ready to pass the Physical Fitness Test within 12 months of childbirth.

### Physical Fitness Test Training Platform (PFTTP) – Air Force Personnel Center, 59MDW, 711th HPW

**Need/Problem:** As of March 2019, there were 6,000 active-duty airmen who had failed their physical fitness test and many more members who were at risk of failing. A 2018 RAND study with 18,000 randomly selected participants across the DoD, showed that almost 63.1 percent of Air Force service members are considered either overweight or obese. Physical training is an integral part of an airman's responsibility to maintain readiness, yet there are key challenges the Air Force faces in ensuring everyone attains, and then maintains, their required level of fitness.

**Technology/Research Overview:** We have adapted our TIP to create a personalized fitness program specifically aligned to the Air Force PFT. Along with a personalized training program, Airmen receive audio and visual coaching and guidance to ensure each workout is performed correctly at the appropriate level of effort and intensity. Meaningful and actionable insights are provided to users so they know exactly how they are progressing and what they should do next. Furthermore, workouts can be performed anywhere with minimal access to specialized equipment and facilities.

### Early Warning MSK Intervention Platform (EWMIP) – 711th Human Performance Wing

**Need/Problem:** According to a US military report (2019), 3 out of 10 active service members are affected by knee-, ankle-, and foot-related injuries and nearly 44% of these result in lost duty days – resulting in \$343M in medical costs and \$350M due to lost duty days. However, nearly half of these are preventable and around 80% of these are classified as overuse injuries. MSK injuries are also the #1 cause of disability and lost workdays, and the #1 reason for opioid prescriptions.

**Technology/Research Overview:** We have researched a method that will predict (and ultimately prevent) major causes of lower limb MSK injuries by applying multi-sensor classifications to correlate large volumes of data from biomechanical, metabolic, physiological and position data. These classifications allow the early detection of imbalances and other indicators of pending MSK injury which can then trigger a very personalized prescription of activity and behaviors to best manage these conditions.

## COMPANY

**Mission:** We are creating a new era of precision health, wellness and fitness by turning biometric insights into personal coaching to create healthy, capable & resilient lives

**Founded:** 2010 | **Number of Employees:** 48 | **Facility Description:** San Diego, California.