



Tianjin JingFan Technology Co., Ltd.

Company Introduction

Tianjin Jingfan Technology Co., Ltd., founded in January 2015, is a professional service provider of photoplethysmography (PPG)-based health measurement and data analysis. The company is a certified national high-tech enterprise with integrated R&D capabilities spanning software and hardware, algorithms, artificial intelligence, cloud technology and medical science. To date, it owns 22 patents, 12 copyrights and registered trademarks, and has established cooperative partnerships with leading domestic and international brands including Hisense Group, iFlytek, Skyworth Group, Haier Medical, JD Health and THERAGUN.



Module



Cloud Services

Qualifications and Honor



National High-tech Enterprise



22 Patent Certificates



Certificates of Authorship



Tianjin Emerging Enterpris



ISO 9000 Certificate



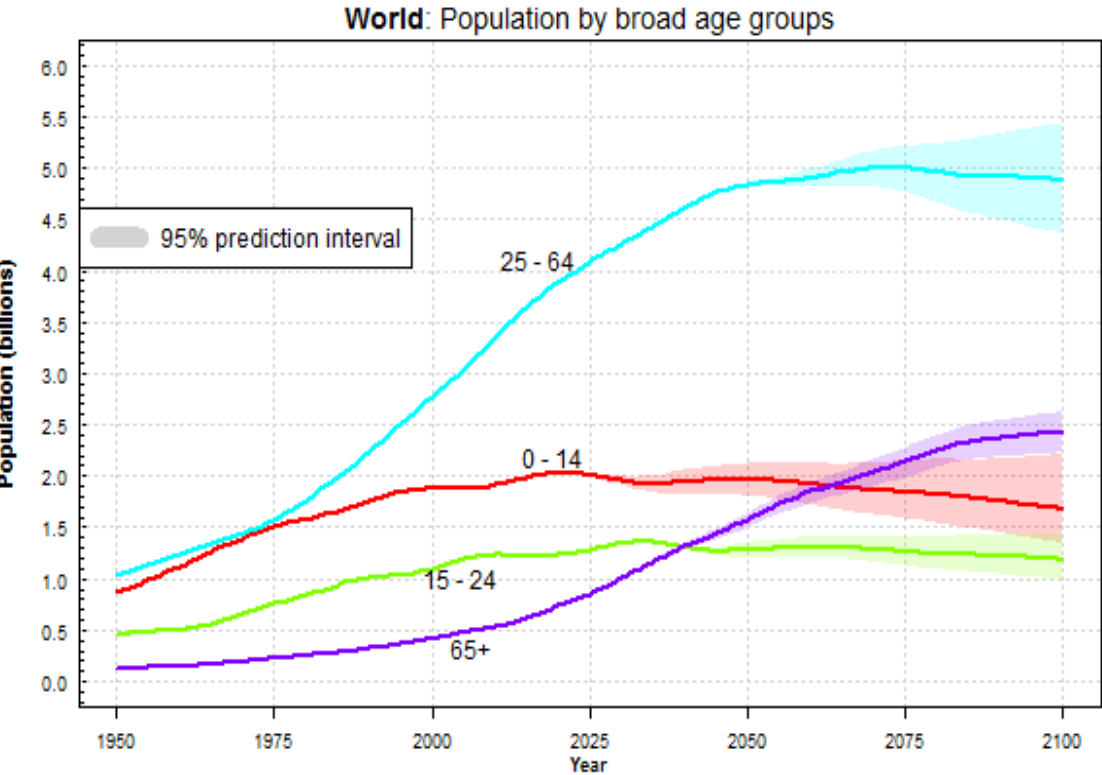
Outstanding Product Award

Application Background

(Prevention of Cardiovascular and Cerebrovascular Diseases in Middle-aged and Elderly People)

In the authoritative journal Journal of the American College of Cardiology (JACC), the latest report of the Global Burden of Disease Study has been published. Findings from the report indicate that cardiovascular diseases (CVDs) continue to be the primary driver of the global disease burden, with one out of every three deaths worldwide being attributable to CVDs.

In 2024, the global number of people suffering from CVDs reached 523 million, an increase of 12.3% compared to 2019. The total number of deaths due to CVDs throughout the year was 18.6 million, accounting for 32.1% of the global total deaths. In terms of age distribution, people aged 65 and above accounted for 67.8% of cardiovascular deaths, but the mortality rate among middle-aged people aged 45-64 increased at the fastest rate.



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United Nations, DESA, Population Division. *World Population Prospects 2024*. <http://population.un.org/wpp/>

	1	2	3	4	5
Global	Ischaemic heart disease 0.81	Stroke 0.97	COPD 1.86	Alzheimer's disease 1.010	Lower respiratory infection 1.00
Central Europe, Eastern Europe, and Central Asia	Ischaemic heart disease 2.11	Stroke 1.84	Alzheimer's disease 1.00	COPD 0.82	Colorectal cancer 1.02
Central Asia	Ischaemic heart disease 2.45	Stroke 1.64	COPD 1.40	Hypertensive heart disease 1.98	Alzheimer's disease 1.02
Central Europe	Ischaemic heart disease 1.46	Stroke 1.59	Alzheimer's disease 1.04	Hypertensive heart disease 2.65	Lung cancer 1.12
Eastern Europe	Ischaemic heart disease 2.49	Stroke 2.04	Alzheimer's disease 0.97	COPD 0.72	Colorectal cancer 0.90
High income	Ischaemic heart disease 0.63	Stroke 0.67	Alzheimer's disease 1.05	COPD 1.10	Lung cancer 0.97
Australasia	Ischaemic heart disease 0.63	Stroke 0.61	Alzheimer's disease 1.03	COPD 1.10	Lung cancer 0.83
High income Asia Pacific	Alzheimer's disease 1.25	Stroke 0.70	Ischaemic heart disease 0.34	Lower respiratory infection 1.43	Lung cancer 0.87
High income North America	Ischaemic heart disease 0.89	Stroke 0.63	COPD 1.59	Alzheimer's disease 0.97	Lung cancer 1.18
Southern Latin America	Ischaemic heart disease 0.49	Lower respiratory infection 2.61	Stroke 0.55	COPD 1.25	Alzheimer's disease 0.94
Western Europe	Ischaemic heart disease 0.64	Stroke 0.70	Alzheimer's disease 0.99	COPD 1.08	Lung cancer 0.89

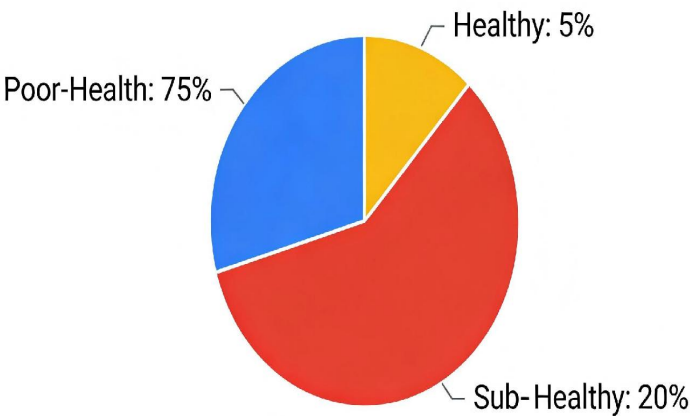
Department of Health Metrics Sciences, Global Health, and Anesthesiology & Pain Medicine, Institute for Health Metrics and Evaluation, University of Washington, Seattle, Washington, USA

Application Background

(Sub-health Monitoring in White-Collar Workers)

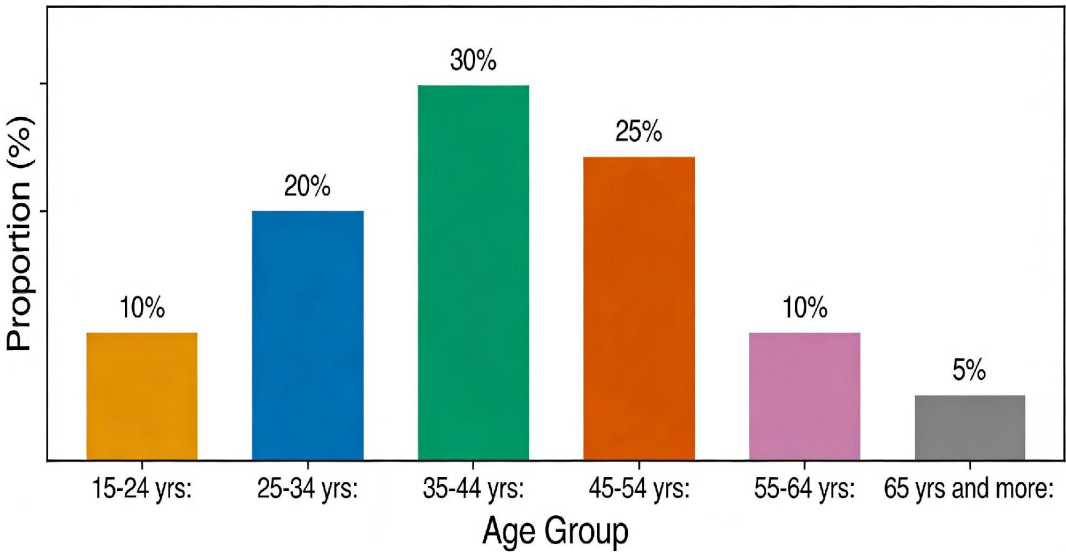
Due to excessive stress, unhealthy diets, lack of exercise, insufficient sleep and other reasons, the problem of sub-health is becoming increasingly serious and has drawn great attention from people. In the future, the people's livelihood industries related to health will witness a more rapid development.

Global Population Health Status Proportion



Data Source: WHO Global Health Survey & Global Burden of Disease (GBD) 2024

Proportion of the Global Sub-Healthy Population by Age Group



Data Source: WHO World Mental Health Report 2023, Global Burden of Disease (GBD) 2024

Typical Heart Rate Scatter Plot

Typical Heart Rhythm Scatter Plots

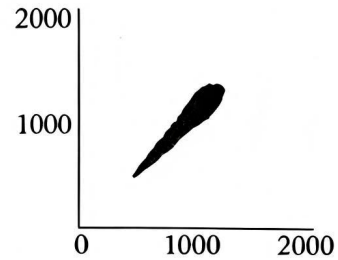
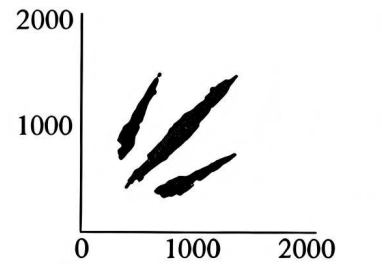


Figure 1. Sinus Rhythm



Three-distribution Supraventricular Premature Beat

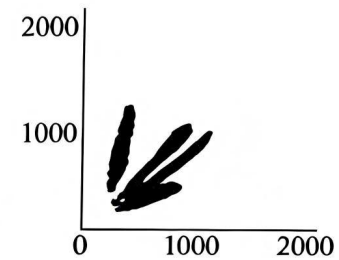


Figure 3. Four-distribution Supraventricular Premature Beat

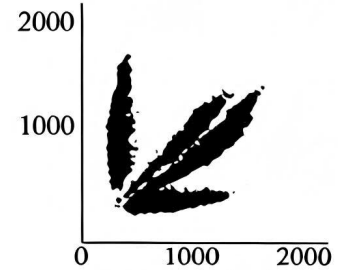


Figure 4. Four-distribution Ventricular Premature Beat

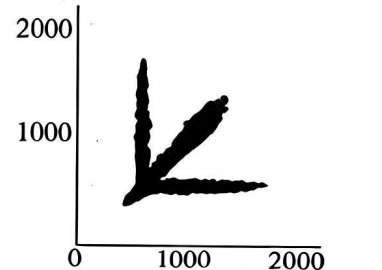


Figure 5. Three-distribution Ventricular Premature Beat Bigeminy

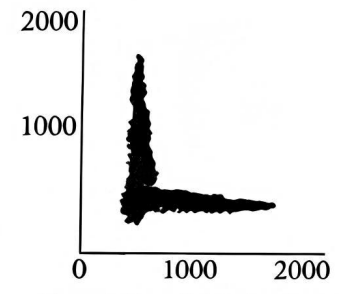


Figure 6. Two-distribution Sustained Ventricular Premature Beat Bigeminy

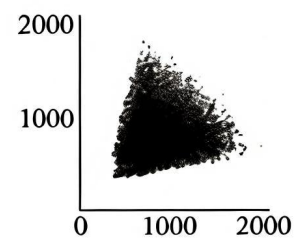


Figure 7. Atrial Fibrillation

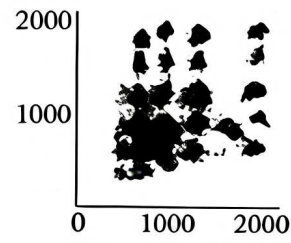


Figure 8. Atrial Flutter

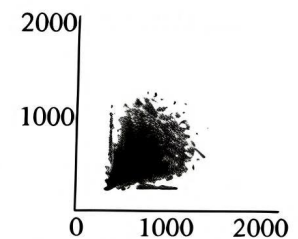
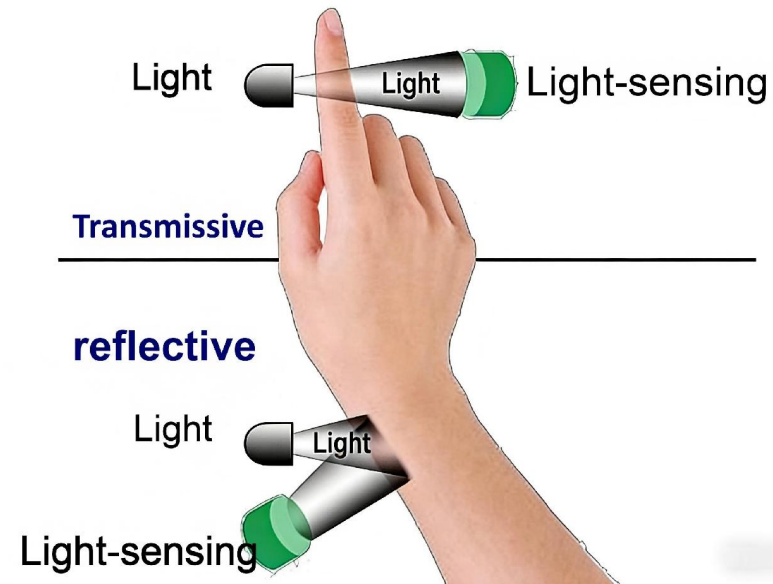


Figure 9. Atrial Fibrillation with Ventricular Premature Beat

Various Common Scatter Plots

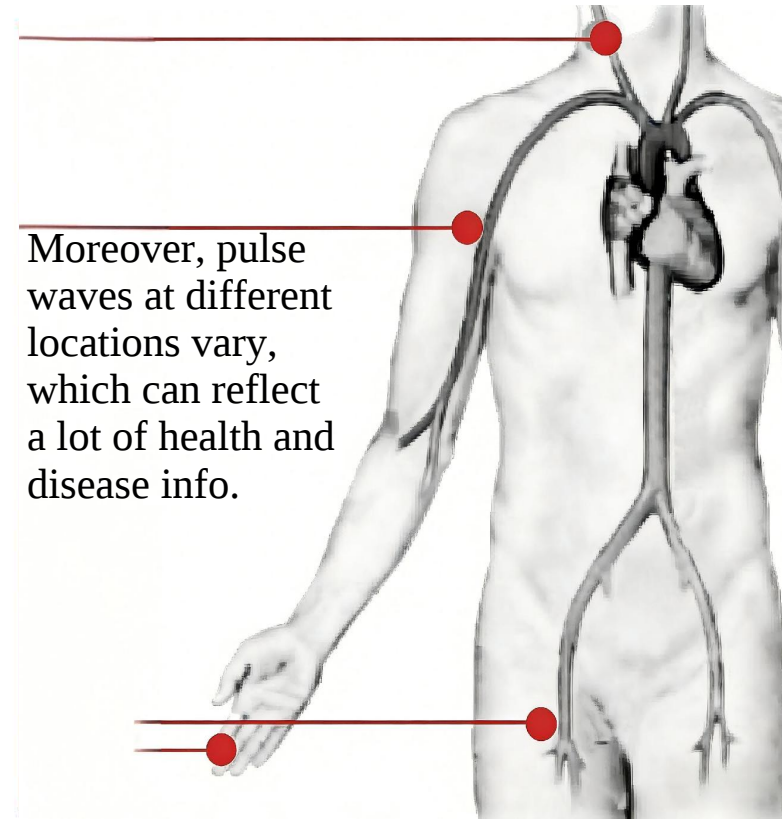
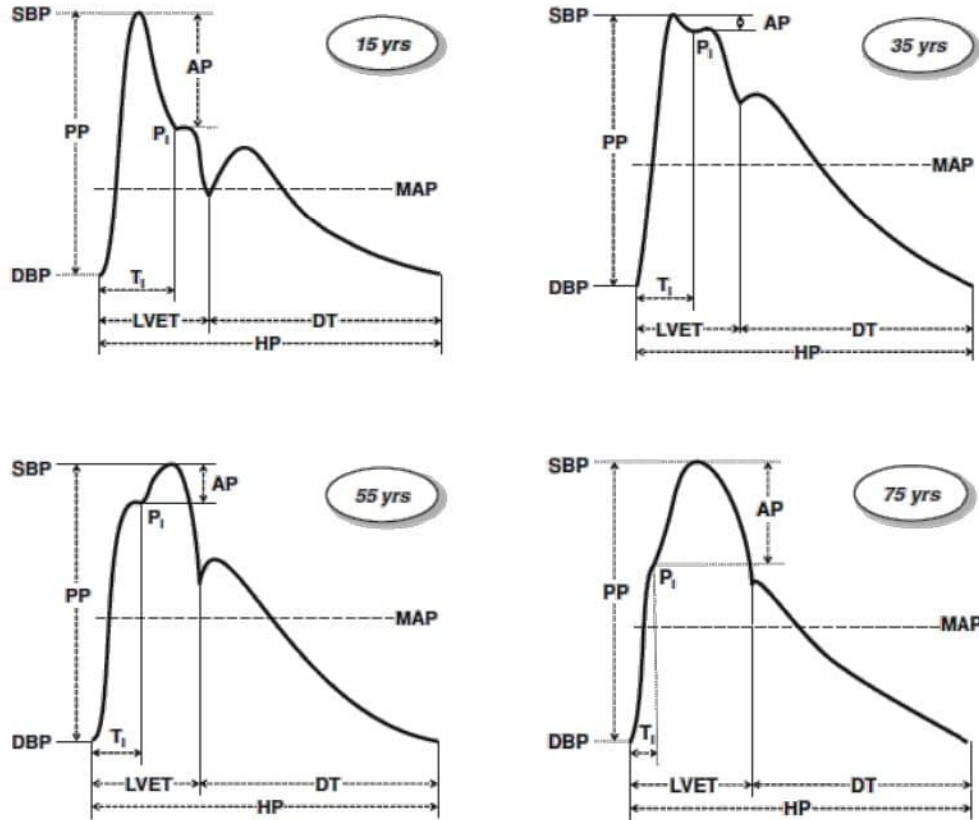
Principle of Pulse Wave



With the periodic contraction and relaxation of the heart, blood is transported to various parts of the body through arteries, and the capillaries on the body surface also undergo periodic contraction and relaxation. By collecting these weak signals through photoelectric sensing technology and using signal restoration methods to restore the information, the pulse wave can be obtained.

Pulse Wave Model

The information contained in the different pulse wave



Pulse waves contain rich information about the state of the heart and blood vessels.

Moreover, pulse waves at different locations vary, which can reflect a lot of health and disease info.

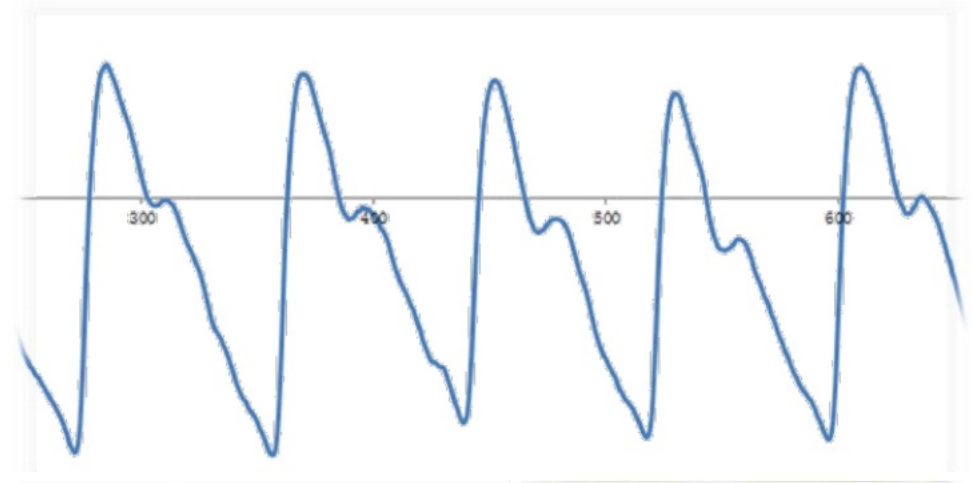
Differences in pulse waves among different age groups Pulse waves vary at different locations.

Waveform Comparison



Most smart bracelet solutions for data acquisition

1. Wave form is rough
2. Accuracy is poor
3. Detection indicators are few



JingFan module solutions for data acquisition

1. Medical-grade data accuracy
2. More detection indicators

Medical-grade Precision

Registration Certificate for Medical Device of China

中华人民共和国医疗器械注册证

注册证编号：粤械注准20232070449

注册人名称	深圳市麟鹏医学科技有限公司
注册人住所	深圳市宝安区石岩街道塘头社区松白公路西侧宗泰电商科技园B206
生产地址	深圳市南山区松柏路1008号A栋523室
产品名称	血氧脉搏体温监测系统
型号、规格	LP-001A、LP-001B、LP-001C
结构及组成	LP-001A由体温探头、血氧探头、主机、移动终端应用软件、USB充电线、胶贴组成。 LP-001B由体温探头、血氧探头、主机、USB充电线、胶贴组成。 LP-001C由体温探头、血氧探头、移动终端应用软件、USB充电线、胶贴组成。
适用范围	适用于儿童和新生儿体温的连续测量、供临床无创估算监测儿童和新生儿动脉血氧饱和度及脉率用。
附件	产品技术要求。
其他内容	无
备注	

审批部门：广东省药品监督管理局

批准日期：2023年03月20日

生效日期：2023年03月20日

有效期至：2028年03月19日

中华人民共和国医疗器械注册证

注册证编号：渝械注准 20242070145

注册人名称	重庆昶健科技有限公司
注册人住所	重庆市大渡口区春晖路街道翠柏路101号3幢12-2(自主承诺)
生产地址	重庆市大渡口区春晖路街道翠柏路101号3幢12-2
代理人名称	/
代理人住所	/
产品名称	多参数监测仪
型号、规格	CJ-TJ-02
结构及组成	本产品由主机、腕带、一次性温度传感器、type-C充电线和软件组成，本产品组成中的软件分为嵌入式软件和控制型软件。
适用范围	产品适用于在静息环境下对成人的脉率、血氧饱和度及体温的连续监测，不包括自动分析、诊断功能。
附件	产品技术要求
其他内容	无
备注	首次注册。

审批部门：重庆市药品监督管理局

批准日期：二〇二四年四月二十三日

生效日期：二〇二四年四月二十三日

有效期至：二〇二九年四月二十二日

The Value and Application of Pulse Waves

Cardiovascular Condition



Fatigue Level



Mental Stress



Sleep Management



Coronary Heart Disease



Sudden Death Due to
Heart Disease



Primary Hypertension,



Congestive Heart
Failure



Arrhythmia



Diabetes

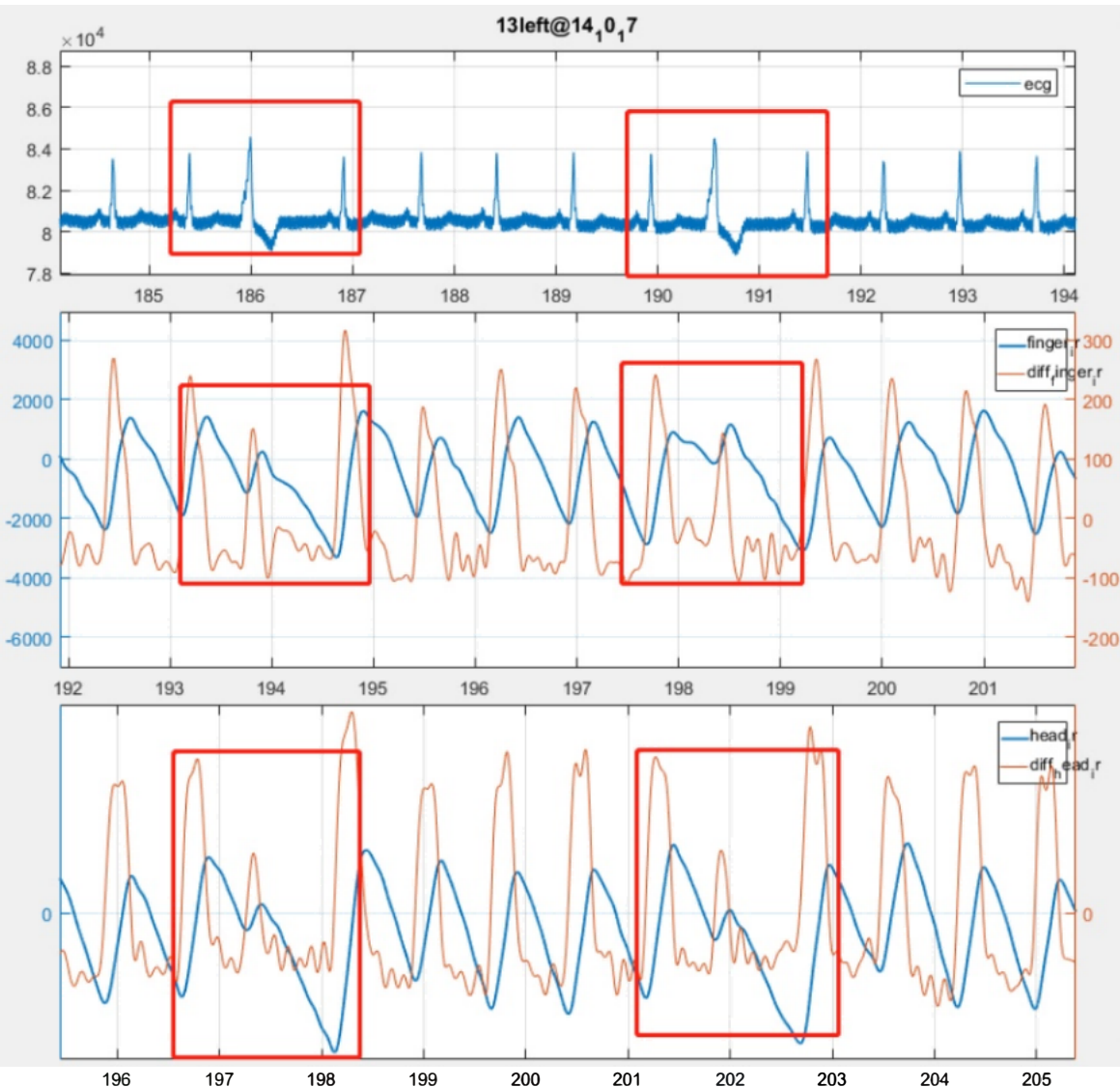


Cardiomyopathy



Comparison of Electrocardiogram and PPG in Patients with Cerebral Infarction

Abnormal pulse wave



Electrocardiogram (ECG) and PPG can both reflect cardiac abnormalities.

PPG can uniquely represent vascular information.

The PPG readings at different positions are different, which can accurately predict and locate diseases.

Abnormal Pulse Wave-heart Failure

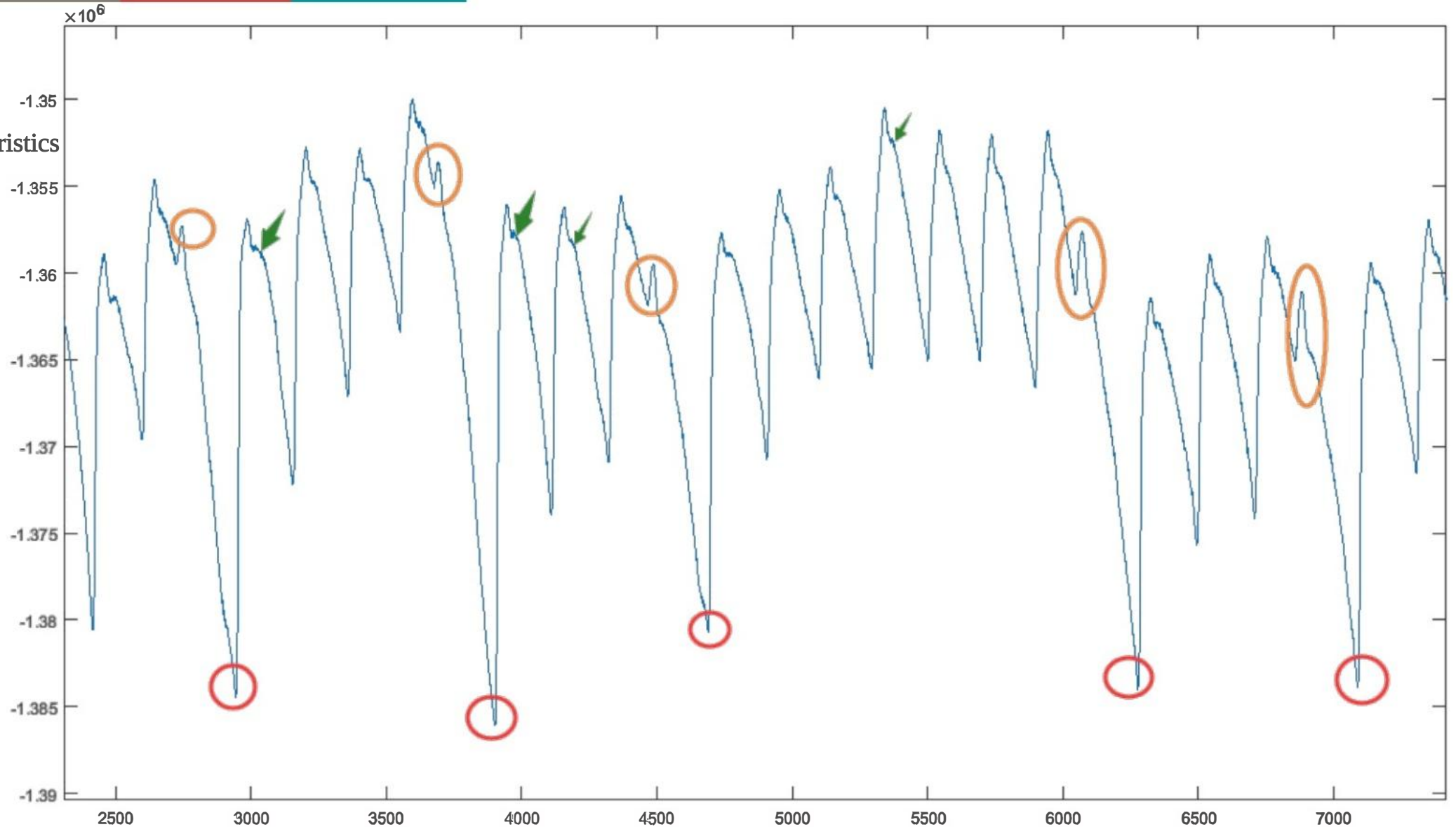
Abnormal pulse wave

◆ Cardiac activity

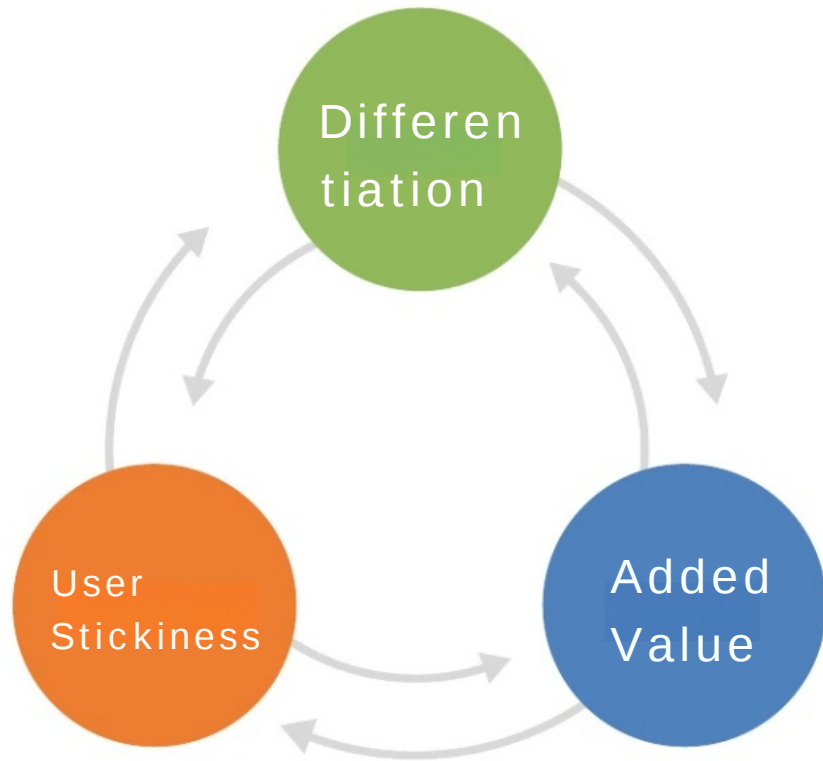
◆ Vascular characteristics

◆ Local diseases

The time and intensity of abnormal occurrences can be accurately determined by the pulse wave facilitating precise assessment and location of the problem.



System Business Value



Product differentiation

- 1.Add health detection functions to enhance user experience.
- 2.In line with the development trend of social internet medical care and big health, the product differentiates itself in competition.



Increase user stickiness

- 1.Increase usage frequency and startup time
- 2.Save user historical data and trend analysis to enhance user retention



Increase the added value

- 1.Health analysis service fees and other content fees

System Expansion Charge



Advertising Connection

Precision advertising services for pharmacies, health supplements, wellness institutions, medical equipment, etc.



Insurance Integration

Collaborate with insurance companies to implement the "medical + insurance" model.



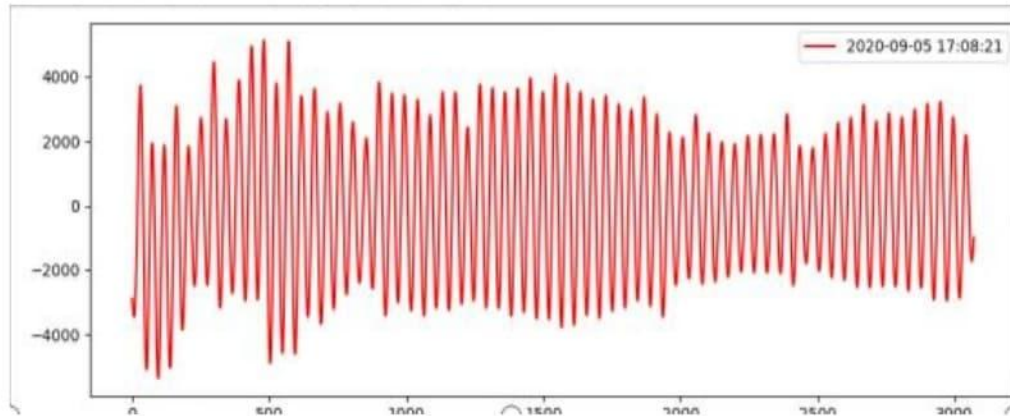
Doctor Consultation

Remotediagnosis, postoperativerehabilitation,etc.

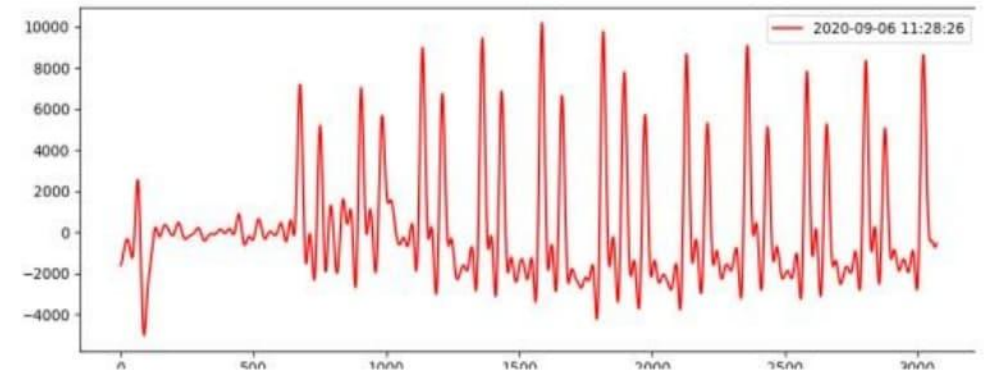
User Data

(Question Pulse instances)

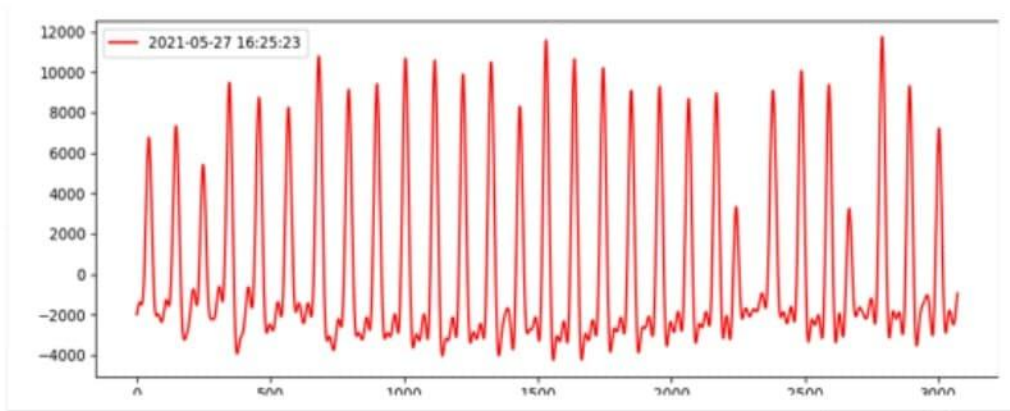
Up to now, the JingFan Cloud backend has identified over 1000 cases of abnormal data, covering pathological features such as low blood oxygen, tachycardia,atrial fibrillation,and prematurebeats.



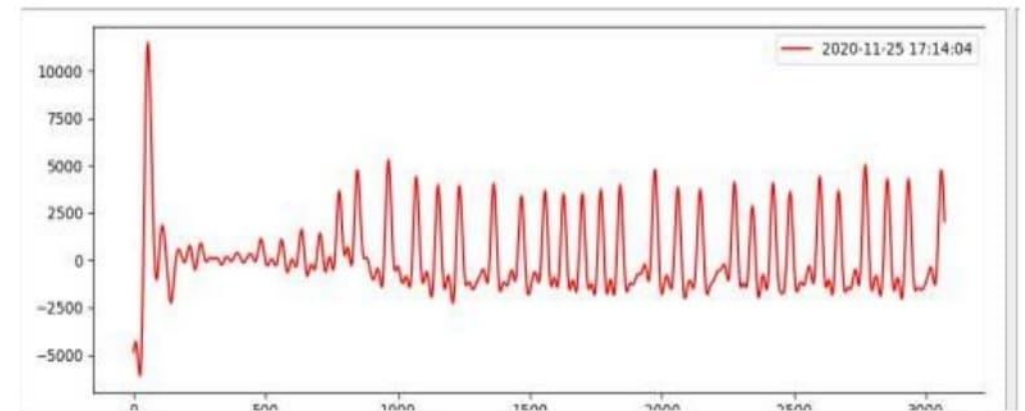
Tachycardia



Couplet rhythm & triplet rhythm



Premature ventricular contractions



Atrial fibrillation

Part of cases



Television



Smart Robot



Eye mask/VR



Massag Chair



Health Watch



Massage Gun



Smart Toilet



Helmet



Smart Ring



In-car
Healthcare

Cooperative Brands



Haier

Hisense

Skyworth
创维



ARROW
箭牌卫浴

THERAGUN

ROTAI
荣泰



Technology Enables Healthy Living