Pitch Deck_Hunch Innovations

Introduction of Hunch Innovations:

Our company specializes in **Industry 4.0** and **smart healthcare solutions** based on edge computing and vision technologies. In the industrial sector, we reduce equipment costs and improve detection efficiency through advanced image restoration algorithms and modular edge computing, with our first product focusing on defective cable tie detection. In smart healthcare, we offer efficient physiological signal detection systems using remote vision and edge computing technologies for telemedicine. Leveraging research from top universities, we provide customized and efficient technical services.

For more guidelines

- 1. Market Analysis
- 2. Core Technology
- 3. Product/Service/Solution Design
- 4. Business Model
- 5. Development Plan
- 6. Annual Development Goal
- 7. Team

1. Market Analysis

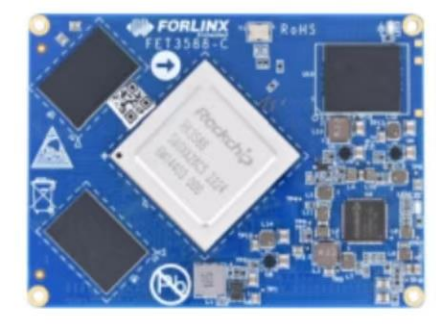
- Based on extensive research into current industrial vision agency companies (e.g., 东莞市荣旭智能科技, 东莞迅达自动化有限公司, 东莞市佳视自动化科技有限公司) and AIoT companies (e.g., 深圳市力维, Hikvision (海康威视), 深兰科技, Rockchip (瑞芯微)), this project has **identified a gap in the market.** Large suppliers such as Hikvision have not yet entered the field of **customized services for non-standardized products**, such as those used in stationery manufacturing, food, and electronic product packaging.

- Meanwhile**, smaller agencies** lack the ability to **reduce the cost** of supplier hardware and platform usage.

1. Market Analysis

- Firstly, although large suppliers possess advantages in human resources and development experience, they are generally unwilling to take on the risks associated with **non-standardized development**, as well as the **costs of after-sales service.** As for the current industrial vision solutions for quality control, smaller agencies, despite being willing to offer non-standardized solutions, typically lack sufficient research and development capabilities. They also face challenges from diverse application scenarios, preventing the creation of a sustainable platform that caters to heterogeneous demands **(such as appropriate hardware and algorithm compatibility support).**

- Thus, the non-standardized vision products offered in the market for industrial production enterprises often present suboptimal solutions. These may include issues like **hardware performance overkill** or **high costs** due to non-customized services, with a high degree of product substitutability.



1. Market Analysis

- In summary, this project concludes that purchasing the current non-standardized services provided by these **agencies entails high costs and product performance risks**. To address these problems, this project proposes a development approach that **standardizes the selection process**. By leveraging the research capabilities of **top research universities and adopting a self-developed method**, we aim to **combine advanced AI algorithms with hardware development experience.** This includes using **image restoration algorithms** to reduce camera costs, **modular edge computing** to lower hardware computation costs, and flash programming tools to mitigate the need for **iterative detection algorithms** by the client.

- After market research and demand communication, the first generation of this project's services will focus on defective tie detection in packaging machines.

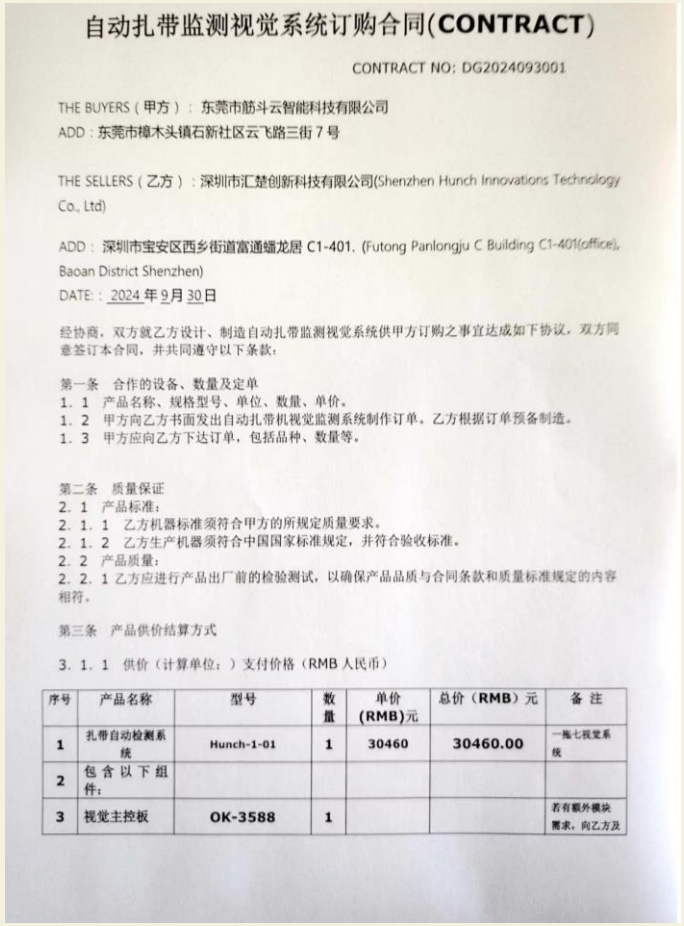
2. Core Technology

- 1. By utilizing edge computing, the project selects the OK-3588 development board, along with additional modules tailored to client needs. This approach reduces the development cost of overpowered host machines and enhances the operational efficiency of the equipment.
- 2. Advanced image restoration algorithms (e.g., SegAD [1], EfficientAD [2]) are employed to lower the development cost associated with high-resolution cameras while improving detection accuracy.
- 3. Leveraging the advanced research capabilities of the Hong Kong University of Science and Technology (Guangzhou) and partnering with a development team from the University of Hong Kong, this project offers stronger product services and faster iteration speeds compared to smaller agencies.

[1] Baitieva, A., Hurych, D., Besnier, V., & Bernard, O. (2024). Supervised Anomaly Detection for Complex Industrial Images. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (pp. 17754-17762).

[2] Batzner, K., Heckler, L., & König, R. (2024). Efficientad: Accurate visual anomaly detection at millisecond-level latencies. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (pp. 128-138).

3. Product/Service/Solution Design (GOT CONTRACT)



自动扎带监测视觉系统订购合同(CONTRACT)

CONTRACT NO: DG2024093001

THE BUYERS（甲方）：东莞市筋斗云智能科技有限公司
ADD：东莞市樟木头镇石新社区云飞路三街 7 号

THE SELLERS（乙方）：深圳市汇楚创新科技有限公司(Shenzhen Hunch Innovations Technology Co., Ltd)

ADD：深圳市宝安区西乡街道富通蟠龙居 C1-401. (Futong Panlongju C Building C1-401(office), Baoan District Shenzhen)
DATE：2024 年 9 月 30 日

经协商，双方就乙方设计、制造自动扎带监测视觉系统供甲方订购之事宜达成如下协议，双方同意签订本合同，并共同遵守以下条款：

第一条 合作的设备、数量及定单
1．1 产品名称、规格型号、单位、数量、单价。
1．2 甲方向乙方书面发出自动扎带机视觉监测系统制作订单。乙方根据订单预备制造。
1．3 甲方应向乙方下达订单，包括品种、数量等。

第二条 质量保证
2．1 产品标准：
2．1．1 乙方机器标准须符合甲方的所规定质量要求。
2．1．2 乙方生产机器须符合中国国家标准规定，并符合验收标准。
2．2 产品质量：
2．2．1 乙方应进行产品出厂前的检验测试，以确保产品品质与合同条款和质量标准规定的内容相符。

第三条 产品供价结算方式

3．1．1 供价（计算单位：）支付价格（RMB 人民币）

序号	产品名称	型号	数量	单价(RMB)元	总价（RMB）元	备 注
1	扎带自动检测系统	Hunch-1-01	1	30460	30460.00	一拖七视觉系统
2	包含以下组件：					
3	视觉主控板	OK-3588	1			若有额外模块需求，向乙方及

7.2. 乙方保证本设备之全部或一部，无论由乙方或第三人提供，其供应之零件、配件、设备及器械皆系新品，且无瑕疵，无论设计上、材料上或制造技巧上潜在或表面上均无瑕疵，且需符合甲方之需求。

7.3. 乙方保证本设备绝无权利瑕疵之情形。如有第三人向甲方主张知识产权利益之损害者，乙方须自行负担一切责任。

7.4. 乙方保证本设备之设计无侵害第三人之知识产权，若有第三人主张有侵权之情事时，皆由乙方负责处理后续相应事项，及赔偿相应赔偿责任。若造成甲方损害，乙方亦应赔偿甲方相应之损害金额。

第八条 纠纷处理

8.1 甲乙双方若发生合同纠纷，应本着互谅互让、互相尊重、和平友好的原则协商解决。若无法于三十个日历天内达成协商时，任一方得提起诉讼解决之。

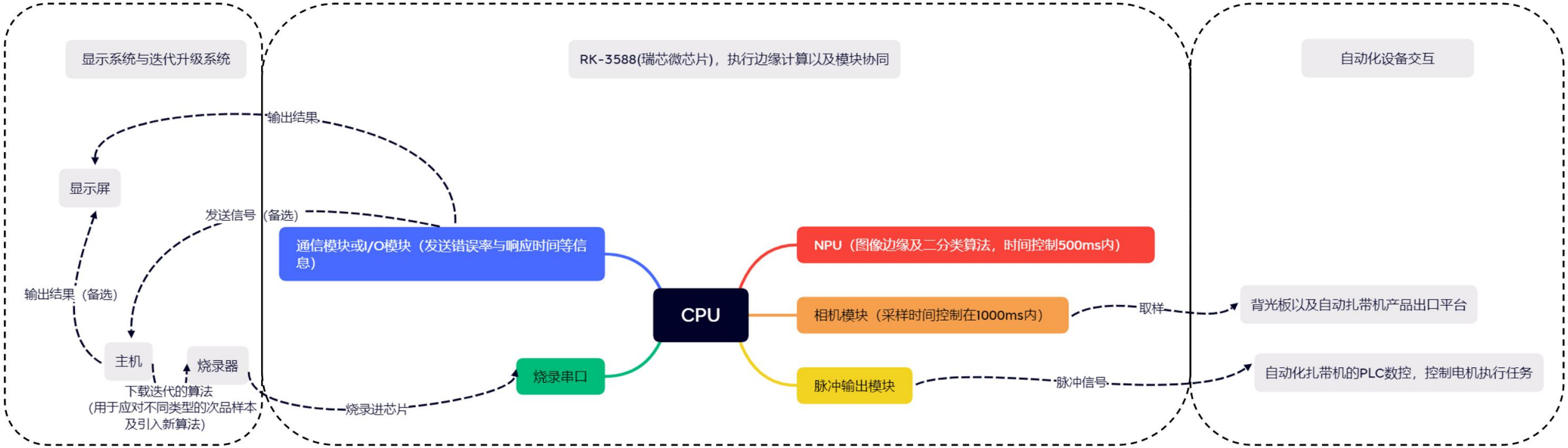
8.2 本合同以中华人民共和国的法律为准据法，并以甲方所在地之法院为管辖法院

8.3 本合同一式贰份， 甲方查份，乙方查份。

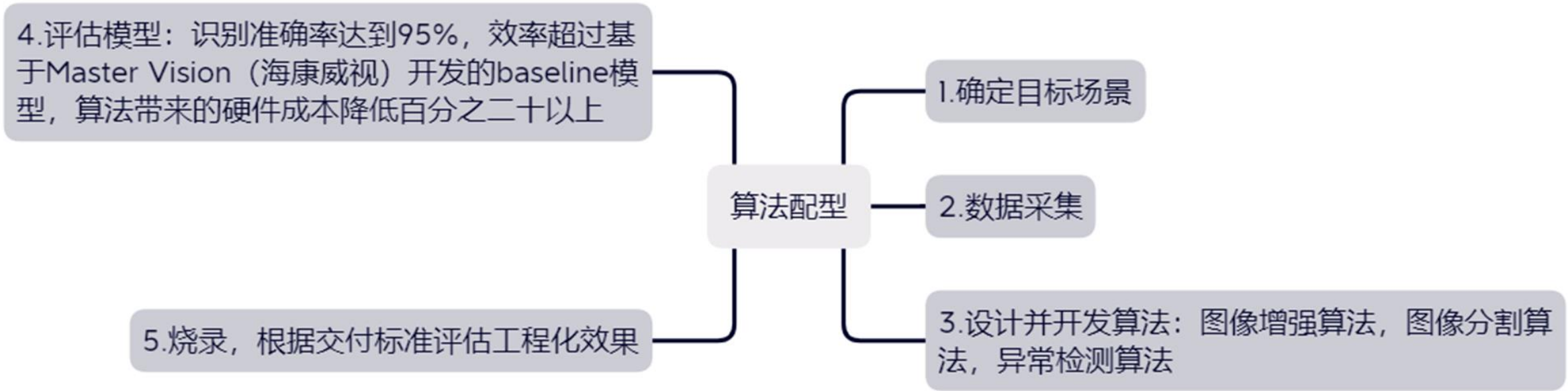
THE BUYERS（甲方）：
东莞市筋斗云智能科技有限公司
DATE：2024.9.30

THE SELLERS（乙方）：
深圳市汇楚创新科技有限公司(Shenzhen Hunch Innovations Technology Co., Ltd)
DATE：2024.9.30

3. Product/Service/Solution Design(DEVELOPMENT BOARD, EDGE-COMPUTING)



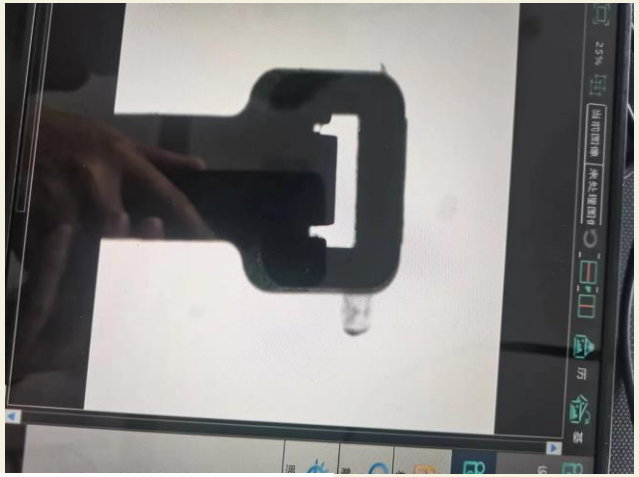
3. Product/Service/Solution Design(Pre-training, Algorithm, Hardware Configuration, Interface and Communication Protocols, Data Flow and System Integration, Evaluation)

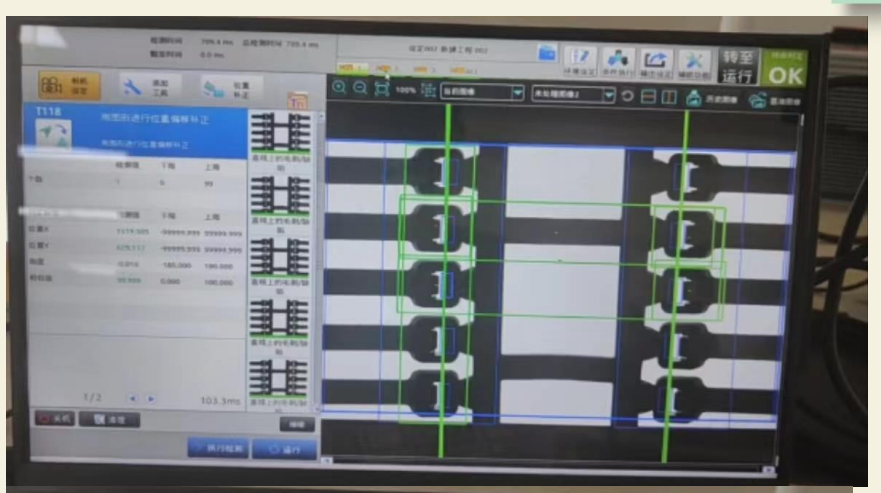


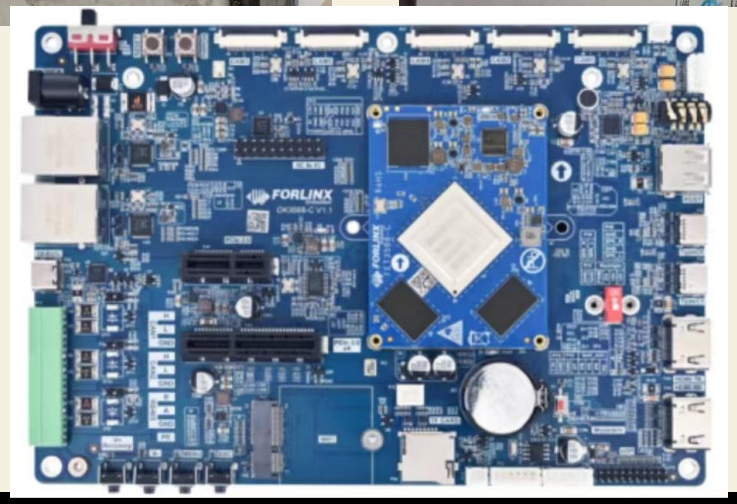
3. Product/Service/Solution Design(Cost of Hardware)

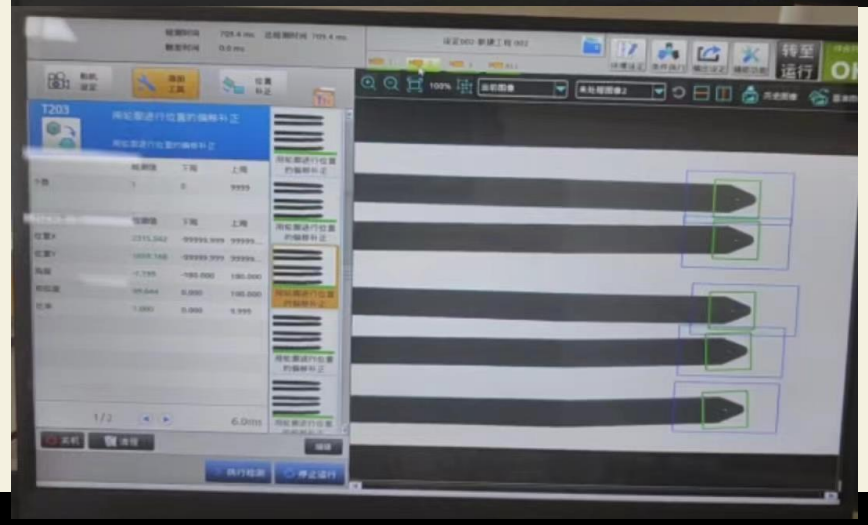
No.	Item Name	Specification/Model	Quantity	Unit Price (RMB)	Total (RMB)	Remarks
1	Vision Main Control Board	OK-3588	1	1600	1600	Additiona costs may incur foı extra modules
2	Industrial Camera and Lens	MV-CU200-20GC	7	1500	10500	20MP, color (single camera price: 1130), protocol compati-ble
3	Surface Light Source	HK-L60-60-18	2	195	390	Huakang
4	Bar Light Source	XS-LR30-300	2	300	600	
5	Light Source Controller	HK24V-4L	1	560	560	Huakang 4-channel controller
6	Display + Mouse	19 inches	1	400	400	
7	Host	Core i5 3470/16G/512G	1	1000	1000	
8	Programmer	Jlink EDU V11	1	210	210	Supports Jflash
9	PLC Pulse Signal Output (Included in Main Board)	KWM (motor output)	1	0	0	Encoder, direct connec-tion
10	Camera Signal Trans-mitter (Included in Main Board)	MITI (camera interface, protocol)	1	0	0	
Total					**15260**	

3. Product/Service/Solution Design(Developing Product)

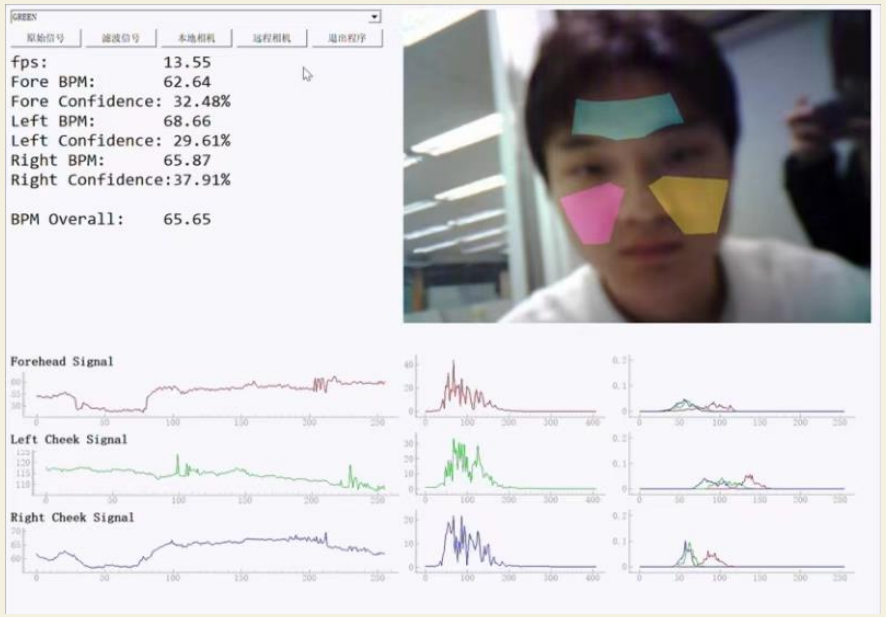


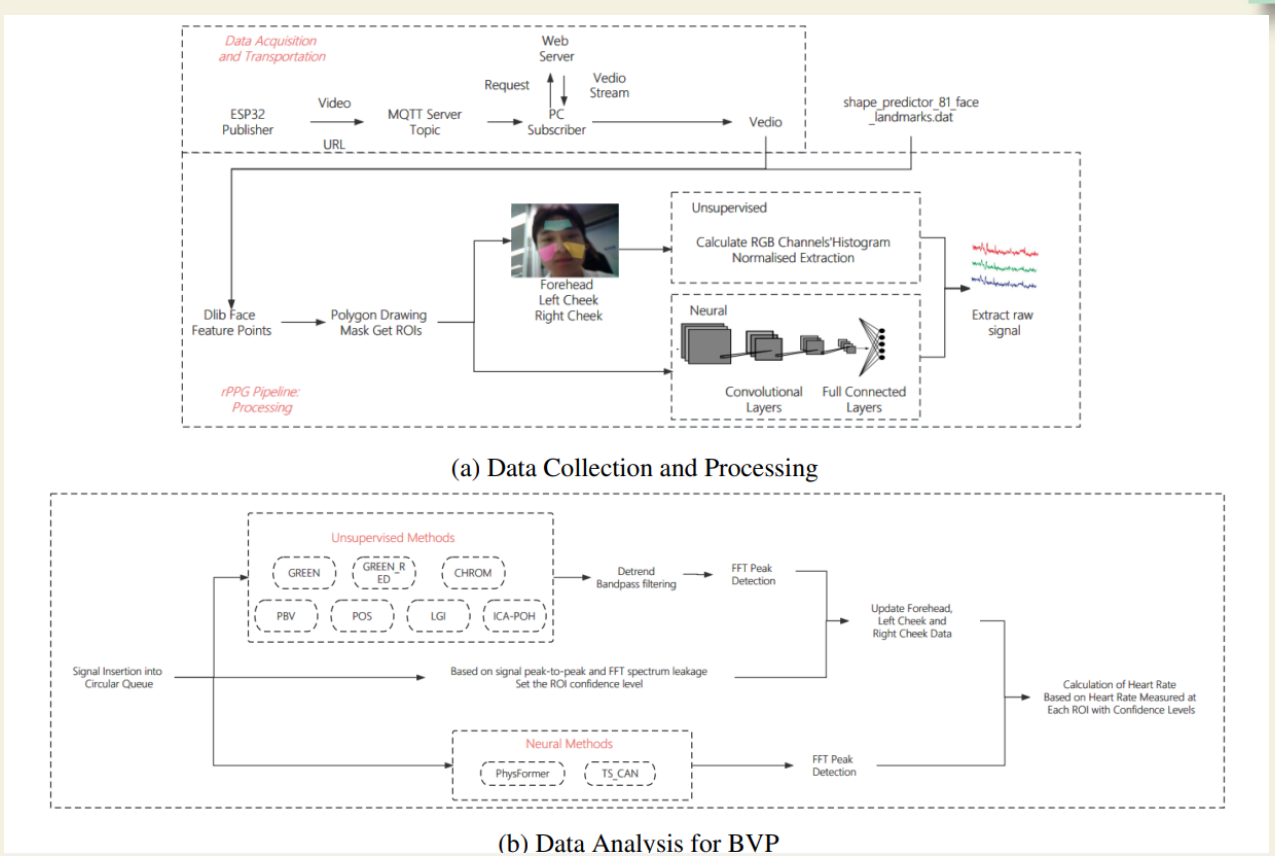






3. Product/Service/Solution Design(Developing Product)





3. Product/Service/Solution Design(Delivery Standards& Risks)

- **Key Points:**

- **Accuracy** (95% and above) and **response time** (≤ 2.5s) are crucial benchmarks.
- **System stability** under real-world conditions, with a packet loss rate of ≤ 1%, is essential.
- Delivery includes a focus on **maintenance**, with proper documentation, UI interface design, and **algorithm iteration capabilities**.
- **Hardware-software compatibility** and **after-sales support** are critical to mitigate risks

4. Business Model

- Platform: **Cost reduction through industry-academia collaboration.** The company adopts an industry-academia-research collaboration model, leveraging top-tier research universities to reduce costs associated with product technical research. This approach fosters the integration between academic research and industrial applications, building a robust commercial ecosystem between enterprises and universities.
- Human Resources: **Leveraging top talent**. The focus is on collaborating with universities to tap into their high-level talent pools. By leveraging the talent attraction capabilities of top platforms, we optimize talent selection and development strategies.
- Research & Development: **Standardized R&D processes** ensure the **fusion of advanced technology and efficiency.** With a highly skilled development team, the company implements **standardized development processes** to ensure the combination of advanced technology and high efficiency.
- Market: The company capitalizes on its **existing broad sales** base in the automation field. By offering a reasonable profit distribution, we maximize the potential of the current sales platform to drive growth.

5. Development Plan

- End of October: Complete the first and second generation iteration of the cable tie detection device using vision and edge computing.
- November: Launch the second non-standard device by optimizing algorithm and development board selection. Aim to sign an order **for 39 additional units** with the client.
- December: Expand into **the AI for healthcare sector** by developing the first-generation product based on Human factor research, targeting internet companies and hospitals.
- Overseas Expansion: Secure overseas orders and expand into Southeast Asia (e.g., Thailand, Vietnam) via the Hong Kong office, focusing on automation.
- Continuous Product Iteration: Utilize market feedback to drive ongoing product improvements.

6. Annual Development Goal

- In one year, the goal is to complete the iteration of the **second-generation industrial vision detection product**, enabling the company to reach over **one million RMB** in sales orders (approximately **30 units**). The projected profit is **500,000 RMB**, with plans to apply for a **patent** for the detection solution. Based on market research in the South China region, the first-generation product is expected to generate at least **100 orders** for non-standardized industrial vision devices. The automation industry has significant demand for vision detection, and the iteration of the product will allow for **fast development** and **low-cost, high-efficiency solutions**. The anticipated company profit is **1,500,000 RMB**.

- Additionally, we plan to launch the first-generation **AI for healthcare** patent and secure **100 orders** from internet companies and mental health platforms. This device, which uses a **single camera** and costs around **5,000 RMB**, will be priced at **120%-150% of the production cost**, with an estimated profit of **200,000 RMB**. The company will also hire several **interns and full-time employees** in embedded systems and algorithm development, growing the team to about **10 people**.

7. Team

- The **core team** consists of three members. One of them is a **current Ph.D. candidate at the Hong Kong University of Science and Technology (Guangzhou)**, who possesses extensive expertise in **vision AI research**.

- Another core member is a **master(EEE department) student at the University of Hong Kong,** who brings a wealth of experience in **automation development** and **business operations**. This individual has been deeply involved in the development and sales of several **overseas automation products** and played a key role in a **brain-computer interface project** targeting international markets at the **Shenzhen Institutes of Advanced Technology(SIAT),** focusing on **hardware integration and automation development**.

- The third core member has over **10 years of experience in automation product sales** and was previously the **annual sales champion** for **Estun Automation** in South China.

- In addition, the team includes several **interns** who are responsible for 1.user interface design, 2.embedded module development, 3.functional implementation, and 4.algorithm integration. These interns work on the debugging and implementation of algorithms, ensuring compatibility with the overall system.