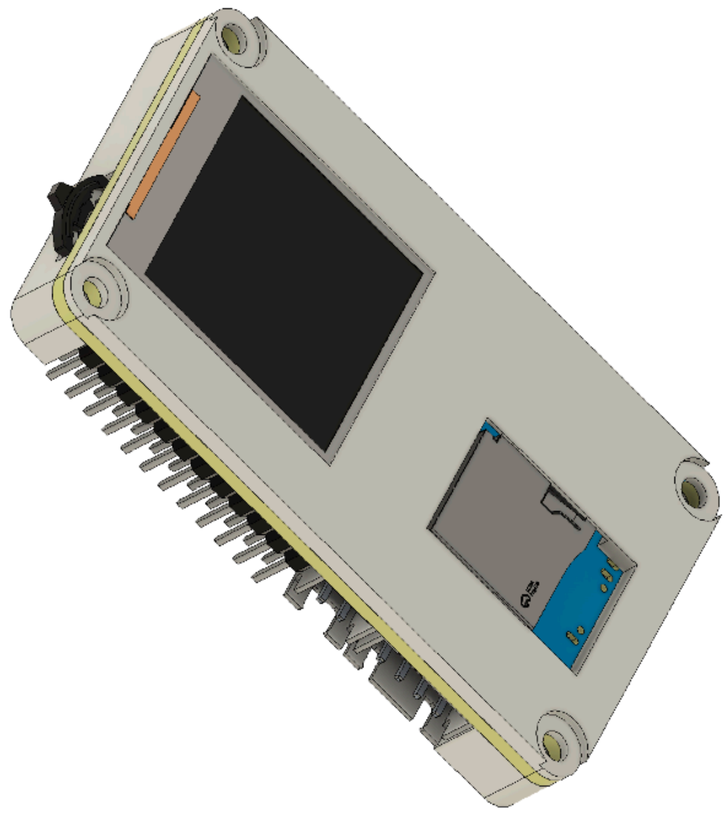


PIONEER：STM32F103智能小车开发板

基于STM32F103RCT6的开发板，为四轮智能小车应用优化

加速开展学校内部社团培训

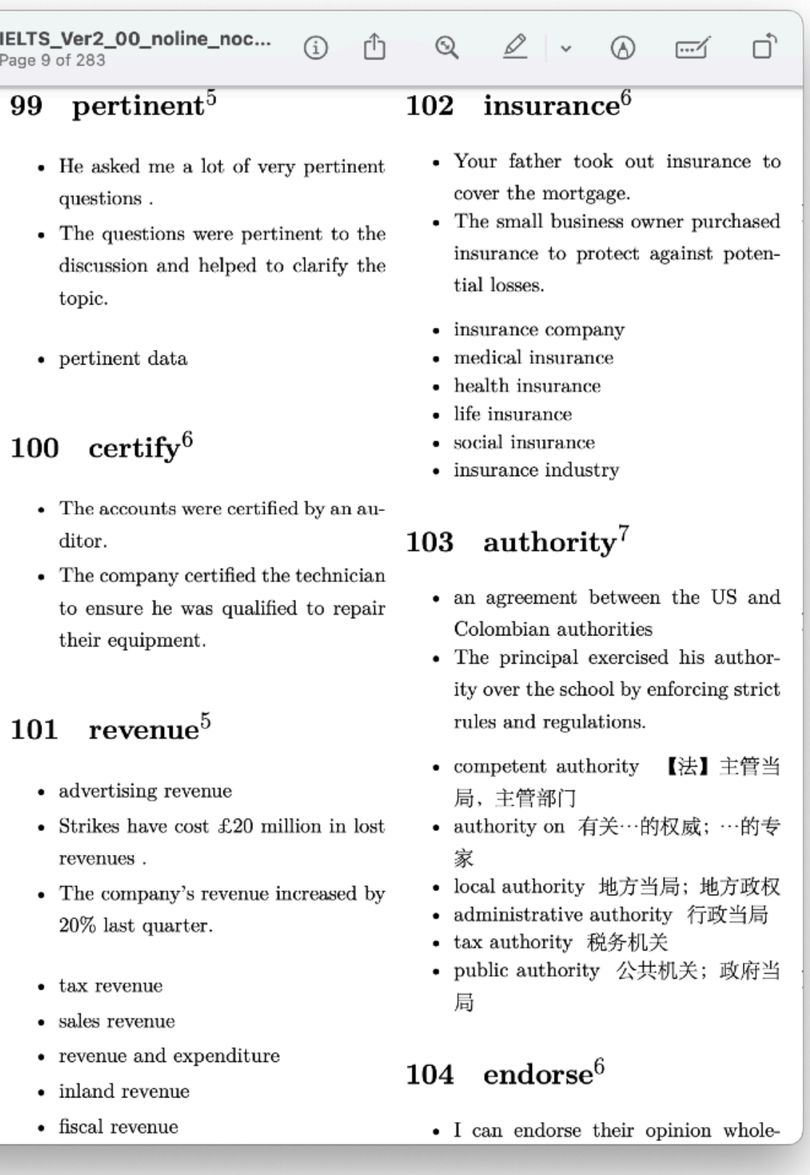
STM32F103RCT6·72MHz·48K RAM·256K ROM

CAN transceiver | SPI Flash | IMU (MPU6050) | USB | LCD(SPI)

软件开发内容：

- 基本的示例：CLK、Debug、IT
- 所有外设的驱动示例：GPIO、UART（DMA/IT）、SPI（DMA/IT）、IIC（DMA/IT）、CAN
- 四轮小车应用的示例：蓝牙手柄（需ESP32配合），控制驱动板
- 基于USB-DFU的Bootloader：直接使用USB下载程序（而不需要转UART或者使用ST-Link）
- 集成FreeRTOS
- 移植LVGL（GUI框架）：逼近极限的性能优化（SPI through DMA, manual malloc buffer, double frame-buffer），实现实际工程可用的30fps@240*240分辨率与RAM/ROM消耗

```
Memory region         Used Size  Region Size  %age Used
          RAM:       40232 B        48 KB     81.85%
        FLASH:      184084 B       256 KB     70.22%
```



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99 pertinent[5]

- He asked me a lot of very pertinent questions .
- The questions were pertinent to the discussion and helped to clarify the topic.
- pertinent data

100 certify[6]

- The accounts were certified by an auditor.
- The company certified the technician to ensure he was qualified to repair their equipment.

101 revenue[5]

- advertising revenue
- Strikes have cost £20 million in lost revenues .
- The company's revenue increased by 20% last quarter.
- tax revenue
- sales revenue
- revenue and expenditure
- inland revenue
- fiscal revenue

102 insurance[6]

- Your father took out insurance to cover the mortgage.
- The small business owner purchased insurance to protect against potential losses.
- insurance company
- medical insurance
- health insurance
- life insurance
- social insurance
- insurance industry

103 authority[7]

- an agreement between the US and Colombian authorities
- The principal exercised his authority over the school by enforcing strict rules and regulations.
- competent authority 【法】主管当局，主管部门
- authority on 有关…的权威；…的专家
- local authority 地方当局；地方政权
- administrative authority 行政当局
- tax authority 税务机关
- public authority 公共机关；政府当局

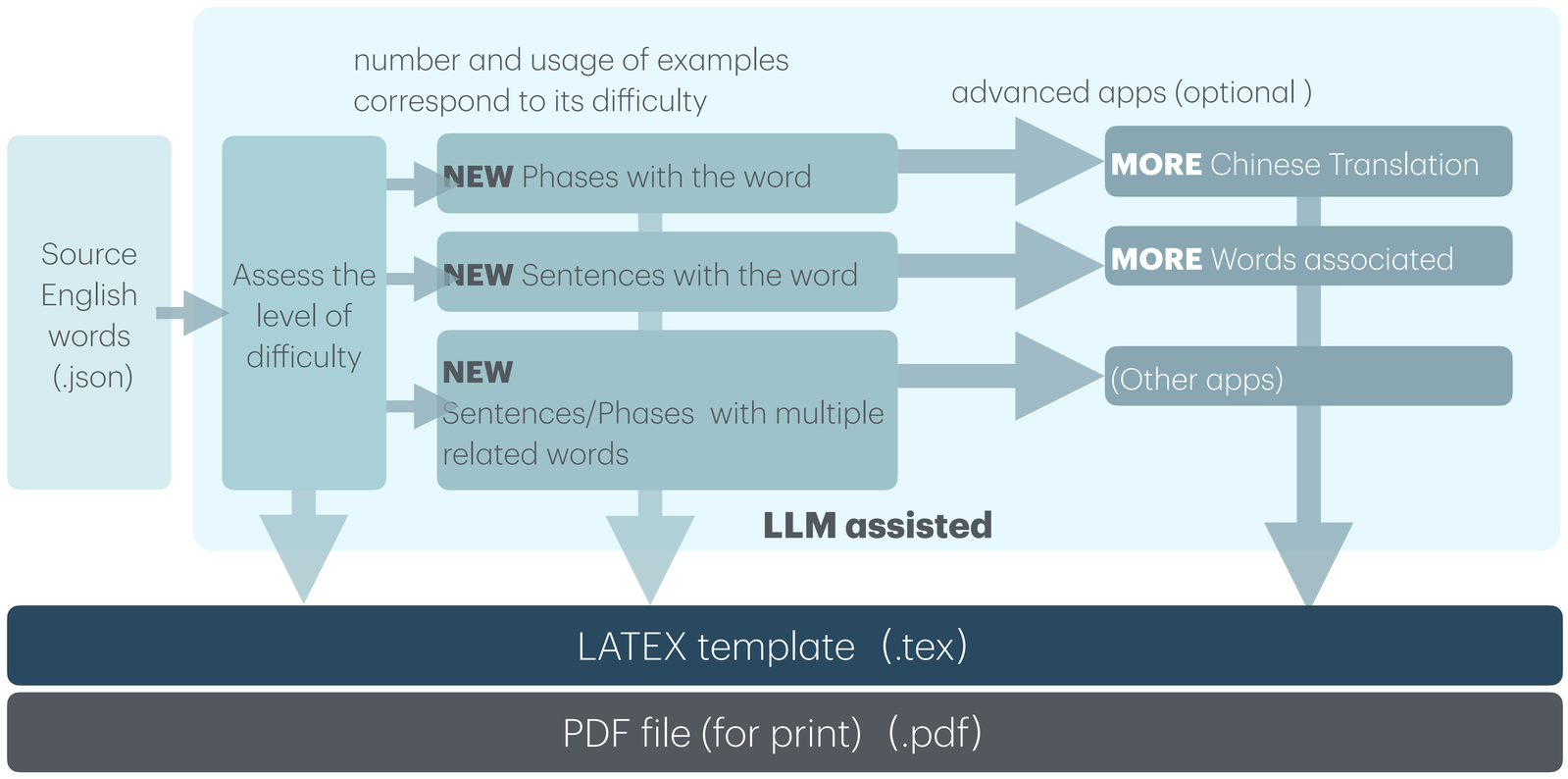
104 endorse[6]

- I can endorse their opinion whole-

MEMORIZE：大语言模型单词记忆辅助

大语言模型评估单词难度，创建不同规模的例句，生成LATEX/PDF文档

- 本地大语言模型
- 评估单词在真实语境下的难度（而非依据单词长度），右上角数字即为难度等级



无刷电机驱动控制器

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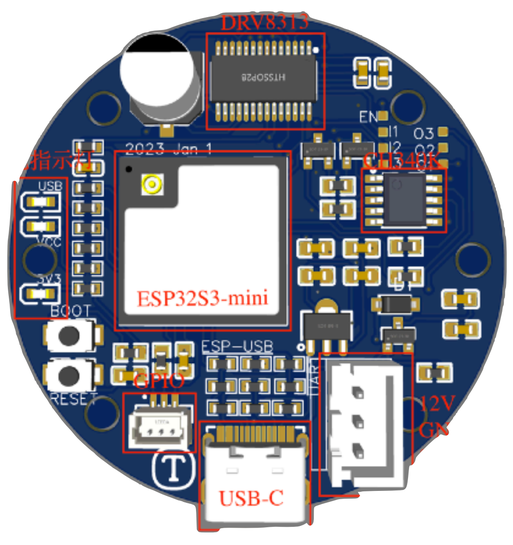
¥0 下载我的方案

无刷电机驱动控制板

高性能低成本的无刷直流电机FOC驱动控制器



- ESP32-S3 主控
- DRV8313驱动器（集成MOS）
- AS5600 磁编码器
- C/C++编写
- 移植FOC算法
- Wi-Fi/BLE调试

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Li Tang

Education

Beijing Jiaotong University

2021, Sep – Present

Undergraduate·Class of 2021 (Junior)·Communication Engineering · Tien-Yow Jeme Honors College

- Courses： Advanced Mathematics/Algebra, Digital/Analog Circuits, Communication Principles, Digital Signal Processing, Computer Principles
- Self-study: Automatic Control Principles, Introduction to Robotics, Computational Graphics

Projects

2023 – Present

Partly, visit Github for more

PANCAKE：Distributed Automated Transport Vehicles

High-load capacity 3D printed autonomous vehicle swarm, completed transport tasks using distributed control. Reduced costs by 80% and increased efficiency by 130% at the same time.

- **Lead hardware design.** Complete research, feasibility studies, and schematic design; complete PCB fabrication and electronic hardware debugging.
- **Lead 3D design.** Complete 3D Modeling, 3D printing testing, metal prototyping, and assembly.
- **Lead software development.** Complete embedded software development (STM32+ESP32); establish ROS environment, deploy drivers, and develop software; coordinate hardware-software integration.
- **Lead a team of three** in the "2023-2024 College Students Entrepreneurship and Innovation Competition"; manage project progress and organize regular meetings. **Project is currently under evaluation.**

PIONEER：STM32F103 Smart Vehicle Development Board

Optimized for four-wheel smart car applications, accelerated and improved the tutorials in lab.

- **Contribute to hardware design.** Include chip selection, schematic drawing, layout review, small-scale manufacturing (100 units), and testing phase.
- **Lead software development.** Build STM32 HAL + CMAKE development environment for various peripheral drivers (C/C++), and integrate third-party frameworks like LVGL and FreeRTOS.
- **Conduct lab trainings.** Create both online and offline tutorials and resolve student inquiries.

Brushless Motor Drive Control Board

High performance BLDC driver with FOC algorithm.

- **Independent Development.** Include validation, hardware design, embedded (ESP32) software development, 3D model design, documentation, project release, and maintenance.
- Feature on "JLC·Hardware Community," achieving 318 sales, 25 favorites, and 29 likes, ranking in the top 5% of the community as of April 12, 2024.

MEMORIZE：Local Language Model Assisted Word Memorization

Generate example sentences of varying difficulty for words and create Latex-formatted documents.

- **Independently develop and maintain** the project,
- Aid me in learning 2100 words in 14 days, preparing for an IELTS exam.

Skill Map