

# Kexin Liu

<https://cola-coding.github.io> (English)  
<https://colamini.github.io> (Chinese)

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## EDUCATION

Education

2014.09-2018.07

South China University of Technology

B.Sc. in Computer Science

3.84/4.0 (4/150, Top 3%)



## WORK EXPERIENCE

Work experience

Meituan (HomeStay) 2017.11-2019.08

Software Developer

- Developed and optimized **core user-facing pages** for the C-end using **React.js** and **Node.js** for **SSR**.
- Abstracted **reusable components** and refactored internal **npm packages** for efficiency.
- Independently developed **key business modules** for the operations center, ensuring **cross-device compatibility** with a single codebase.
- Assisted in B-end system development, utilizing the **React-Redux** stack to enhance efficiency.

Tencent (WeChat) 2020.04-2022.07

Senior Software Developer

- Led the development and refactoring of mini-program **live streaming** host-side, migrating from **Gulp** to **Webpack**.
- Contributed to the **TypeScript refactor** of the **Node.js** framework, integrating **Vue3**, **RPC**, **Protobuf**, **logging**, and **monitoring** systems for the Mini Program customer service system.
- Developed **Node.js SDK** and **JSSDK** for the Wetel project, improving system **observability**, performance monitoring.
- Designed **JSSDKs** and **plugins** for business teams, abstracting reusable components.

South China Digital and AI Research Institute 2022.10-now

Senior Software Developer

- Developed frontend framework for an **AI-driven education** platform to cultivate AI talent.
- Contributed to training **10,000+** students and organizing **100+** on-campus research activities.
- Explored **AI applications** in personalized education through an integrated teaching platform, covering learning, assessment, and competitions.



## KEY PROJECT

Project experience

### PROJECT 1 | AI Teaching Assistant

**Project Overview:** This project builds an intelligent dialogue system using the **ChatGLM** open-source model and **LangChain** framework. It leverages speech recognition, synthesis, and **AI** to interact with users, simulate human-like conversations, and enable automated responses.

**Work Summary:** <https://cola-coding.github.io/Intelligent-Dialogue-System-Based-on-RAG-Technology/>

#### Responsibilities:

- Developed Agent using **LangChain**, **React**, **Node.js**, optimizing dialogue logic for dynamic user response
- Designed and implemented **RAG** process, utilizing vector **databases** for efficient information retrieval.
- Integrated **TTS**, **ASR**, and **THG** technologies to enhance natural language understanding and interaction.
- Fine-tuned **ChatGLM** with few-shot learning to boost model accuracy and performance.

#### Project Outcomes:

- Enhanced system response speed and user satisfaction, effectively meeting needs.
- Integrated real-time speech system, reducing latency.

## PROJECT 2 | WeChat Open Platform Node.js Framework Refactoring

**Project Overview:** Refactored the legacy WeChat Open Platform **Node.js** framework by integrating key public functions (**RPC**, **Protobuf**, **logging**, and **monitoring**) to improve system scalability, maintainability, and modularity.

**Responsibilities:**

- Utilized **TypeScript** for static type checking, improving code readability and maintainability.
- Contributed to system architecture design and refactored with the **NestJS** framework for modular code.
- Integrated **logging**, **monitoring** systems to ensure observability, responding to feedback to optimize features.

**Project Outcomes:**

- **Standardized** programming practices and improved system **maintainability**.
  - Increased code reuse, speeding up development and enhancing code quality.
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## PROJECT 3 | WeTelemetry Distributed Tracking System

**Project Overview:** This project implemented **full-chain tracking** using **OpenTelemetry**, enabling real-time monitoring of **metrics**, **logs**, and **distributed tracing**, thus enhancing system observability and performance.

**Responsibilities:**

- Actively identified and resolved performance bottlenecks in **data collection**.
- Developed **Node.js** and Web **JSSDKs**, ensuring high-quality and optimized performance.
- Collected user **feedback** and drove product **iteration**, ensuring all user needs were met.
- Supported **context information** passing between services for end-to-end request tracking, identifying performance bottlenecks.
- Monitored **microservice** performance with full-link tracking, enabling quick issue identification.

**Project Outcomes:**

- **Led cross-department collaboration**, ensuring **SDK** design met technical requirements.
  - Optimized SDK performance using **Event-Driven** design, improving **data transmission** efficiency.
  - Reduced **MTTR**, designed SDK for seamless integration.
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## PROJECT 4 | Meituan Homestay UAC Permission Management System

**Project Overview:** Developed a tailored **UAC** permission management system to address inefficiencies in revoking permissions for employees who had left the company, building on the existing system.

**Responsibilities:**

- Utilized the **React Redux** technology stack to improve front-end system performance.
- Set up the system framework using scaffolding and developed basic **form list pages**.
- Configured a publishing system for **automatic project deployment**, streamlining development.

**Project Outcomes:**

- Independently completed the B-end system from **scratch** to launch in **3 days**.
  - Gained valuable experience and familiarity with the **complete internal product development process** within group.
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