# Yiwei Liu

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## Education

**Nanjing University**                                                              2021.9 - 2025.6
- Bachelor of Computer Science and Technology
- GPA: 4.63 / 5.00（Top 2.3%）

## Rewards

- Outstanding Student of Kaijia Academy.
- Yangtze River Alumni Scholarship (Top **3%**).
- People's Scholarship First Prize (Top **10%**).

## Research Experience

- FormulaQA: A Question Answering Dataset for Formula-Based Numerical Reasoning, Xiao Li, Sichen Liu, Bolin Zhu, Yin Zhu, **Yiwei Liu**, Gong Cheng (Submitting to ICLR)
- LogiNumBENCH: Benchmarking Joint Logical and Numerical Reasoning over Natural Language, **Yiwei liu**, Xiao Li, Gong Cheng (Submitting to COLING)

## Internship Experience

**Tencent IEG - TiMi Studio Group**                                                 2024.8 - 2024.10
- Situation: The development team aimed to enhance game character intelligence and player interactions in a large-scale gaming project but lacked existing intent recognition data.
- Task: Develop and integrate an AI proactive command system to enable game characters to understand and respond to player intents efficiently within Unreal Engine.
- Action:
  - Data Synthesis: Generated high-quality training data using LLMs.
  - Data Annotation Pipeline: Employed the reflection mechanism of multiple LLMs to continuously collect and label online data.
  - Model Architecture Design: Designed a hybrid intent recognition model combining rule-based methods with a two-tier classification system (coarse and fine classifications) to improve efficiency and accuracy.
  - Model Deployment: Deployed the model in Unreal Engine and wrote a tokenizer in C++.
  - Feature Enhancement: Optimized role-playing settings; utilized RAG to integrate game knowledge; integrated TTS to enable AI voice responses within the game.
- Result:
  - Reached 99% accuracy, with 20% of inputs efficiently handled by rule-based approaches.
  - Established data annotation and optimization workflows for future projects.

## Projects

- **Scheme Interpreter** Developed a Python interpreter for a Scheme language subset, implementing lexical analysis, parsing, and evaluation.
- **Tai-e Simplified** Built a simplified version of Tai-e, a static analysis framework for Java.
- **NEMU (i386 Hardware Emulator)** and **MinOS** Constructed an emulator simulating i386 hardware-level operations and designed a simplified operating system with concurrency support and file systems.

# 刘艺葳

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## 教育背景

**南京大学**                                                    2021.9 - 2025.6
- 计算机科学与技术本科
- GPA：4.63 / 5.00（Top 2.3%）

## 获奖情况

- 开甲书院优秀学生

- 长江苏友奖学金 (Top **3%**).

- 人民奖学金一等奖 (Top **10%**).

## 研究经历

- FormulaQA: A Question Answering Dataset for Formula-Based Numerical Reasoning, Xiao Li, Sichen Liu, Bolin Zhu, Yin Zhu, **Yiwei Liu**, Gong Cheng (Submitting to ICLR)

- LogiNumBENCH: Benchmarking Joint Logical and Numerical Reasoning over Natural Language, **Yiwei liu**, Xiao Li, Gong Cheng (Submitting to COLING)

## 实习经历

**腾讯 IEG -天美工作室群**                                          2024.8 - 2024.10
- 情况：开发团队旨在提升某大型游戏项目中游戏角色的智能性和玩家交互，但缺乏现有的意图识别数据。
- 任务：在 Unreal Engine 中开发并集成一个 AI 主动指令系统，使游戏角色能够高效地理解并响应玩家意图。
- 行动：
  - 数据合成：使用 LLM 生成高质量的训练数据。
  - 数据标注流程：利用多个 LLM 的反思机制，持续收集和标注在线数据。
  - 模型架构设计：设计了结合基于规则的方法和两级分类系统（粗分类和细分类）的混合意图识别模型，以提高效率和准确性。
  - 模型部署：在 Unreal Engine 中部署模型，并用 C++ 编写了一个分词器。
  - 功能增强：优化角色扮演设置；利用 RAG 集成游戏知识；集成 TTS 使 AI 能够在游戏中进行语音响应。
- 结果：
  - 达到 99% 的准确率，20% 的输入通过基于规则的方法得到高效处理。
  - 为后续项目建立了数据标注和优化的工作流程。

## 项目经历

- **Scheme 解释器** 开发了一个用于 Scheme 语言子集的 Python 解释器，实现了词法分析、语法解析和求值。

- **Tai-e 简化版** 构建了 Tai-e 的简化版本，一个用于 Java 的静态分析框架。

- **NEMU（i386 硬件模拟器）和 MinOS** 构建了一个模拟 i386 硬件级别操作的模拟器，并设计了一个支持并发和文件系统的简化操作系统。