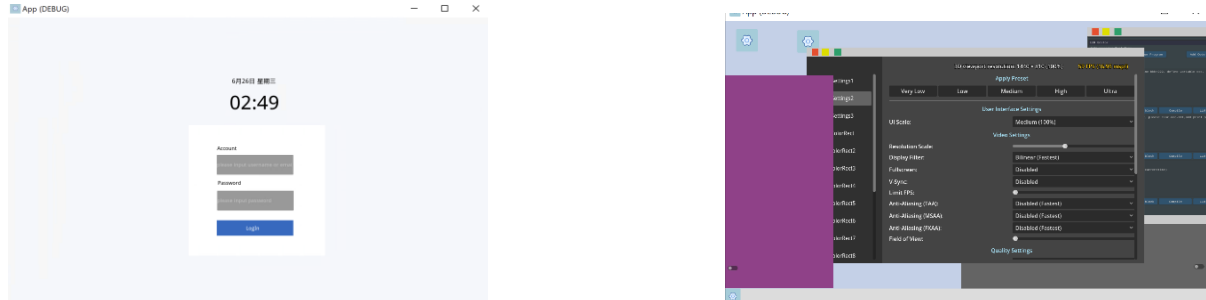


Personal Project Technology Experience

Some of my personal projects are listed here, hope you can feel my enthusiasm about technology industry:

- **Another Approach of Desktop UI Development (Based on Game Engine):** Both Linux and FreeBSD operating systems are currently lack of robust UI interfaces. This project aims to address the market gap. Therefore, I am developing a new desktop UI in my spare time. Traditional desktop UI development is usually based on code (such as Flutter Desktop, QT, React) and requires substantial effort to maintain code repositories. But, this UI is built upon a game engine with a real-time rendering architecture.



- **Financial Data Collection, Data Warehouse Management and Data Analysis:** This is one of my research projects during my graduate studies, and it is my course final project in the ME866 Parameter Estimation (Fundamentals of Artificial Intelligence) class. This project titled "Stock Price Prediction Based on Polynomial Curve Fitting and Regularization Optimization Evaluation", and I have collected a substantial amount of financial data that can be used for amateur machine learning, model training and quantitative analysis. And this is a very flexible data processing architecture.

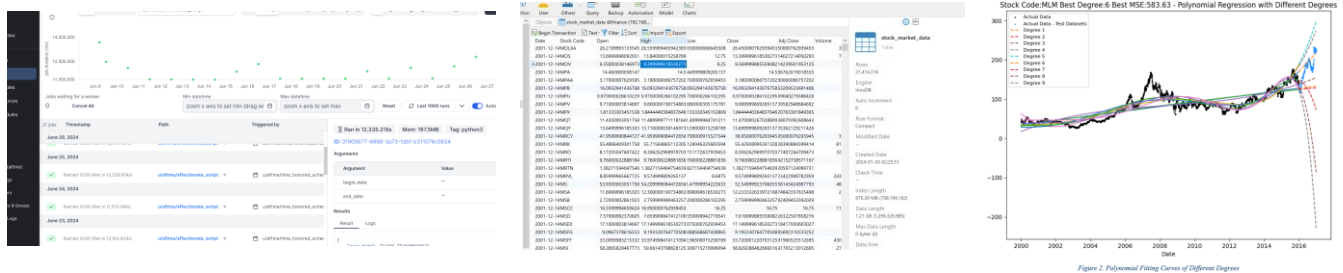
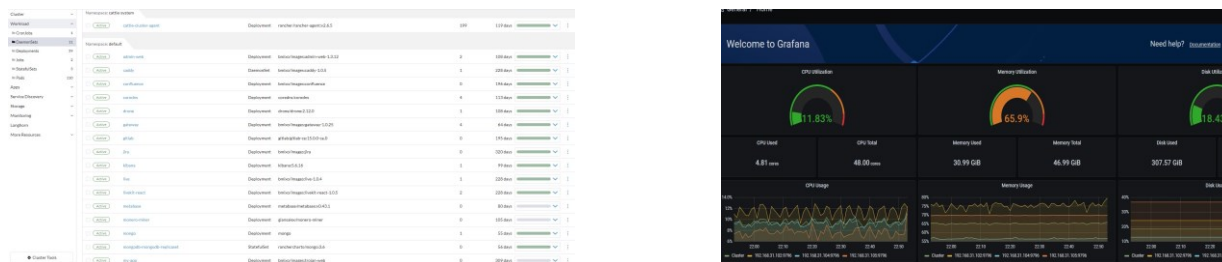
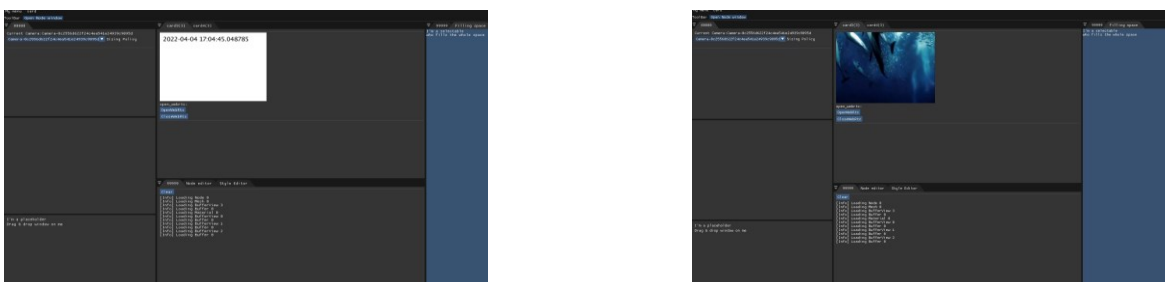


Figure 2. Polynomial Fitting Curve of Different Degrees

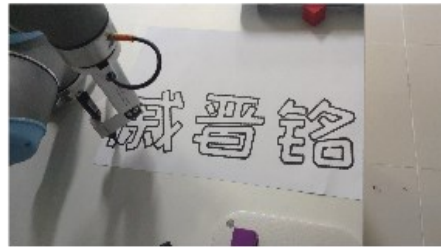
- **Home Lab K8S(K3S) Cluster Operations and Management (2021 -- Now):** I was fascinated by containerization, distributed computing, load balancing, service mesh and other cloud computing technologies, so I built a K8S (K3S) cluster at home, and I deployed many services on it, such as blog, data crawler, database (MongoDB, MySQL, PostgreSQL, TiDB), Gitea, Mattermost IM Service and etc.



- **Remote Automation Farm Project (2021):** In this project, I hope that people can remotely control the robot to grow and harvest vegetables without having to go to farms for on-site planting. The project uses technologies such as WebRTC, FFmpeg, and OpenCV.



- **Smart Calligraphy Robot Controlled by App (2020):** This is my graduation project on Zhejiang University(Ningbo Institute of Technology). This project allow user to use Mobile Application to control the UR robot arm to write Chinese calligraphy characters. But this is only the first stage of the idea. Ultimately, I hope to combine the robotic arm with a human hand, allowing the robotic arm to assist in human new skill training. Ideally it can be use in military soldier muscle memory training, doctor surgery training and etc.



- **Robot Race Transport Robot Competition (2019):** This is a robot competition project organized by Zhejiang Province government, which require to develop an autonomous decisions robot, and the robot capable to making its own decisions with human intervention. This project used the Kinetis ARM Cortex-M series of chips, along with 3D design, 3D printing and manufacturing, circuit design, embedded programming, and other technologies.

