

Resume

Latex PDFs

You can download the PDF version of my resume, created with LaTeX, [here](#) or the dark mode version.

You can also find the Chinese version [here](#) or the dark mode version.

Profile

- Male, born in 1995, Chinese citizen, resides in Guangzhou. Achieved top 300 in Guangdong NOIP 2011 and solved around 1000 algorithm problems online.
- Studied for one year at Beijing Forestry University before dropping out. Pursuing an associate degree through self-taught education, with nine courses completed.
- Currently at TEKsystems (outsourced to HSBC Bank). Previous experience includes LeanCloud, Beijing Square Root, Beyondsoft (outsourced to DBS Bank), and Farben Information (outsourced to HSBC Bank).
- Accumulated 11 years of professional experience, including 8 years in corporate roles and 3 years as a freelancer. Specializes in 2 years of mobile (Android, iOS) engineering, 8 years of full-stack engineering (7 years backend, 1 year frontend), and 1 year in machine learning/big data.
- Good understanding of HTML, CSS, Browser APIs, JavaScript, Vue.js, React, Angular, and iOS/Android development. Familiar with Java, Spring, Spring Boot, MySQL, Redis, APIs, networking, containers, and distributed systems. Familiar with logging, database, and microservice modules on Alibaba Cloud, AWS, and Azure.
- Native in Chinese, proficient in English (IELTS 6). Read over 320 books spanning textbooks, personal development, business, technology and history. Read around 2000 comprehensive, long AI answers in the past year.
- Developed 10 open-source GitHub projects as a main developer, each with over 500 commits available at <https://github.com/lzwjava>. Detailed software portfolio available at <https://lzwjava.github.io/pages/portfolio-en>.
- Generous knowledge sharer with AI assistance to help fix grammar, having around 480 original posts on the blog attracting around 60,000 page views a year, and who documents a lot in the corporate environment too.
- Self-taught researcher with three academic-style papers on reversing myopia and natural vision restoration, inspired by the works of Yin Wang and Todd Becker, backed by three years of experimentation.
- Engineer with an entrepreneurial spirit and a product mindset, using 3 mobile phones and one thousand of apps and games to play with. Work as an autonomous AI agent, proficient with extensive AI tools, and becoming better with comprehensive logging and testing.
- Life hacker in every aspect of life, with one thousand of innovative practices—from bringing a second mobile device to help my daughter learn English in China, to using a car vent to dry hair; air fryer lover; owns hundreds of small tools and gadgets like an Electric/Magnetic Fields meter, etc.
- Travel lover and road trip master. Been to the USA twice, as well as Hong Kong and Macao, and half parts of China. Taken English courses online with 60 Filipino English teachers, and some African or European teachers too.

Work Experience

Meitai Technology Service (Shanghai) Co., Ltd. Guangzhou Branch, Backend Engineer, 2025.02 - Present

- Backend Engineer outsourced to HSBC Bank under TEKsystems, developing and optimizing backend systems for the Finance Transformation Platform in HSBC's Enterprise Technology Department.
- Maintained features for financial data processing including import, validation, and export, while enhancing submission and approval workflows for new financial headers. Leveraged expertise in accounting, ledger, and banking systems.
- Managed the full development lifecycle, from local development to UAT testing and production releases. Copilot was heavily utilized for extensive tasks such as analyzing root causes, generating Python scripts, and documenting around 200 technical guides; some of these guides became key references for teammates facing similar challenges.
- Developed innovative banking technical solutions by leveraging AI tools like Copilot, performance profiling with YourKit, and systematic testing while functioning as an autonomous AI agent who analyzed project architecture, collaborated with teams, and continuously improved through comprehensive logging and documentation.
- Tried to implement an AI software agent in a big financial project using AspectJ to gather tons of logs and convert debug states to text, providing context for AI chatbots.
- Worked with technologies such as Java, Spring Boot, IBM Db2, multithreading, Maven, Nexus, Angular, and Python, along with tools including Windows, Control-M, IBM WebSphere Application Server, and Copilot.

Freelancer, 2023.08 - 2025.01

- Analyzed and reimplemented some core parts around 30 example projects about machine learning, from PyTorch, TensorFlow tutorials, Coursera online courses or other open-source projects. And got two course completion certificates from Coursera about Machine Learning Specialization and Deep Learning Specialization.
- Prepared for exams related to obtaining an associate degree, with a focus on subjects such as advanced mathematics, computer organization, linear algebra, etc. Listened to a lot of Japanese songs and watched a lot of Japanese TikTok videos to learn the language.
- Participated as a Full Stack Developer in an AI-powered story bot project using Claude's API for personalized stories. The bot supports prompt setting and includes a management page for configuration. Developed with Python, Flask, React, and Nginx, and deployed on AWS. Used Prometheus for monitoring, ELK stack for log management, and ChatGPT-4 for programming assistance.
- Maintained a technical blog with 431 original blog posts. Utilized large language models to translate content into 9 languages, provide text-to-speech audio, support PDF and EPUB formats, integrate with GitHub workflows, and use LaTeX for writing papers or creating a resume. Other technologies employed include Python, Jekyll, Deepseek, and Mistral. The website is <https://lzwjava.github.io>.
- Conducted experiments with llama.cpp, embeddings, rerankers, Retrieval-Augmented Generation, and the MMLU benchmark. Explored search engine provider integrations such as Jina AI, Tavily AI Search API, and ElevenLabs API.

Shenzhen Farben Information Technology Co., Backend Engineer, 2022.11 - 2023.07

- Farben is a leading software technology service provider in China. HSBC Bank is one of the largest banking and financial services institutions in the world. PayMe is an HSBC mobile payment service catering to Hong Kong residents.
- Contracting through Farben, assigned to work for HSBC Bank and contributed to the PayMe project. Participated in the backend development for the Auto Top Up feature, which automatically tops up funds from the user's credit or debit card when their balance falls below a certain amount. Monitored post-payment events from Azure EventHub and checked for top-ups whenever a user set up their auto top-up configuration. Used dedicated object-oriented programming to handle cases elegantly and applied aspect-oriented programming to audit logs for changes in the auto top-up table.
- Actively contributed to cloud migration following participation in the company's AWS training. Refactored APIs to utilize request header-based routing, ensured secure access and database configurations, and participated in deploying microservices to the new cloud infrastructure.
- Utilized a strong tech stack including Java, Spring, and Kafka, along with Azure, Azure DevOps, and AWS for cloud services and continuous integration.

Beyondsoft Guangzhou Co., Ltd., Backend Engineer, 2021.12 - 2022.11

- Beyondsoft Consulting is a leading business IT and consulting company. DBS Bank is the largest bank in Southeast Asia by assets and among the largest banks in Asia. Contracting with Beyondsoft, assigned to work for DBS Bank and contributed to DBS Client Connect and DBS DigiBank CN projects.
- In the DBS Client Connect project, contributed to the development of the equity trading microservice. Responsibilities included creating functionalities for equities display, customer display, pre-trade checks, and placing actual equity trade orders. Integrated Avaloq APIs to enhance the underlying infrastructure and improved the user experience by implementing an edit distance algorithm to refine stock code searches.
- In the DBS DigiBank CN project, actively contributed to the development of several microservices handling mutual funds management, structured investment products, investment portfolios, and transaction lists. Assisted with performance tests by analyzing logs from Pivotal Cloud Foundry to generate reports on the QPS of the microservices. Developed a tool to automate test generation for the testing tool Karate, streamlining the testing process and improving test coverage.
- My first English-speaking job in an international team at a big company, with Singaporean and Indian colleagues, led me to use LinkedIn for global connections, learning, and exposure to international vibes. It revealed mindset differences beyond language among Chinese, Singaporeans, and Indians. This life-changing shift transformed me, starting with English, by changing my info feed to mostly English—gaining new worldviews and perspectives from those cultures.
- Leveraged cloud technologies and modern frameworks, employing automation best practices with tools such as Java, Spring Cloud, Jira, Confluence, Jenkins, Pivotal Cloud Foundry, and Kibana, and utilizing BDD and TDD methodologies.

Freelancer, 2020.01 - 2021.11

- Authored and published technical blogs to share knowledge online, improved English proficiency through engaging with Netflix and literature, and enhanced problem-solving skills by tackling around 500 algorithm problems and participating in Codeforces competitions. Gained a little hands-on experience with big data and cloud-native technologies by exploring introductory tutorials and running examples for Spark, Hadoop, Kubernetes, and Docker.
- Completed various software projects as a freelancer, LED Sign Website Development, Enterprise WeChat Integration for ShowMeBug, Web Scraper for Trade Data Collection, eBook tool mathjax2mobi.
- LED Sign Website Development (lvchensign.com): Developed a website for an LED sign manufacturing company using Bootstrap, HTML and JavaScript. Implemented features for showcasing products.
- Enterprise WeChat Integration for ShowMeBug: Contributed to the integration of ShowMeBug with Enterprise WeChat, enabling seamless access to technical interview tools within the Enterprise WeChat ecosystem. Utilized technologies like Ruby, Ruby On Rails, PostgreSQL and the WeChat SDK to create a smooth user experience for interviewers and candidates.
- Web Scraper for Trade Data Collection: Developed a web scraper using Python and Selenium to collect trade data for a non-woven fabric company. Automated data extraction and page navigation, processed and stored the data in a SQLite database, and generated reports for business analysis.
- mathjax2mobi: a tool designed to convert HTML content with MathJax equations into eBook-friendly formats. By transforming LaTeX-based MathJax equations into SVG images, it ensures compatibility with eBook formats like MOBI. Technologies used include Python, BeautifulSoup, and Selenium.

Beijing Square Root Inc, Founder & Full Stack Engineer, 2016.07 - 2019.12

- Beijing Square Root Inc. ran two businesses in 3.5 years. From July 2016 to September 2017, it rolled out and operated Fun Live, a knowledge live broadcast platform. From January 2018 to December 2019, it transformed into a software consulting business.
- With Fun Live, users could participate in various knowledge lectures such as programming or design. Users could pay fees to attend live sessions or reward lecturers. The lecturer used the OBS tool to push live streams to the server. Users could participate in the lecture in real-time or see the playback later. The platform integrated seamlessly with WeChat for notifications. Hosted around 80 lectures, gained 30,000 users and millions of page views.
- As a solo entrepreneur, I coded during the day and gained users at night; everything was direct with minimal bureaucracy. This was my peak performance. I registered the company, met with investors to secure an investment of half a million CNY, handled equity changes, attended other engineering conferences to reach out to potential lecturers, and built 10 WeChat groups with around 500 people each. The highs and lows were intense and exhilarating.
- After getting investment, I hired 9 employees but had to let them go after two months, which contributed to one of my most painful mistakes: not having a long-term plan, wanting to impress others, and naively trying to train my management skills. The good news is that by hiring part-time engineers to do 50 small software projects together, we earned half a million back and gave it back to the investor when shutting down the company.
- From an engineering perspective, I performed most of the software development, resulting in around 2,000 code commits across 3 web client apps and 1 server. They were open sourced on GitHub@lzwjava some years later. The project leveraged PHP, Vue, HTML, CodeIgniter, MySQL, Redis, LeanCloud, Alibaba Cloud, WeChat SDK, SRS

(Simple Realtime Server), WeChat MiniProgram, Fabric, Linux, and Nginx. I also did some design work in Sketch.

- During the software consulting business period, completed 50 small software projects for customers, including web-sites, games, and apps. The revenue was around 3 million RMB and the profit was around 700 thousand RMB. Responsible for project negotiation, team management, and some software development. Notable projects are shown below.
- MianbaoLive: Led a comprehensive backend refactoring effort for MianbaoLive, a one-stop content monetization and social economy platform. Optimized the performance, stability, and user experience of the entire tech stack. Previously used ThinkPHP, Node.js, and Go, and rewrote everything in Laravel for server-side development. The platform included modules for courses, users, content, user attendance, payments, and distribution sales. Partnered with Himalaya, a top audio platform in China, and synchronized content between the platforms.
- Jiangsu TV's Super Brain Program WeChat Mini Program: Responsible for all backend development and half of the frontend development for the Super Brain program's WeChat Mini Program. Engaged viewers with interactive puzzle games, enabling them to compete and rank to become the "Super Brain." Used the WeChat Mini Program framework and Wepy (Vue.js) to create game components and ranking pages. Integrated RESTful APIs to fetch game data and user information. Performed extensive performance tuning to ensure the system could handle high concurrency, leveraging caching technologies such as Redis.
- Chongding Conference: Spearheaded full-stack engineering for Chongding Conference, a mobile trivia app in China resembling HQ Trivia. Designed and implemented services and APIs to handle live trivia events, user management, and real-time question and answer sessions. Utilized Java and Spring for the backend, with Redis and Kafka for caching and message queuing, Zookeeper for service coordination, and Socket.IO for real-time interactions. Developed the admin panel to help operators control the game. The app supported live streaming, real-time interaction, and robust performance under high traffic conditions. Contributed to technical discussions for using SEI (Supplemental Enhancement Information) to synchronize the timestamp of the live streaming with the trivia game interactions.

Beijing Dami Entertainment Co., Cofounder & Full Stack Engineer, 2015.11 - 2016.7

- Beijing Dami Entertainment Co. was a company founded by 6 Internet enthusiasts, including me. Launched and operated the platform CodeReview, a professional platform for code review, communication, and sharing. Gained around 3000 users.
- The platform included functionalities such as user management, code submission and review processes, notification systems, payment integration, and event and workshop management. Engineers could submit their code for expert review to improve its quality, and experts received fees for their reviews. The platform also offered workshops and events open to users. Responsible for the development of the backend and half of the frontend. Utilized a strong tech stack including PHP, Vue, CodeIgniter, Alibaba Cloud, and Ping++.
- My first entrepreneurial attempt was with 5 cofounders, who helped me a lot with my own startup and provided inspiration for me to become better. We were from big companies or cutting-edge startups in Beijing. Only later in life could I appreciate the entrepreneurial spirit in Beijing and the greater chance to meet people who dream big and pursue excellence instead of doing mediocre jobs. The atmosphere in Beijing at that time was quite unique and exciting.

Delicious Bookmarks (Beijing) Information Technology Co., Ltd., Software Engineer, 2014.07 - 2015.11

- Delicious Bookmarks is a leading cloud computing provider in China, known as LeanCloud. It offers a complete set of cloud services including object storage, file storage, web hosting, containers, instant messaging, push notifications, SMS, and game backends. The company serves hundreds of thousands of developer users.
- Participated in the development of LeanCloud Objective-C SDK and Java SDK. Responsible for the development of LeanChat iOS client and Android client, a chat application designed to demonstrate the instant messaging SDK. Additionally, worked on various frontend projects. Employed a robust tech stack, leveraging modern tools such as iOS SDK, Android SDK, Cocoapods, Xcode, Android Studio, and the Angular framework.
- This was my first job. In the early days of my university life, I participated in the 2013 China Software Developers Conference hosted by CSDN and met the head of engineering at LeanCloud. As a result, I later interned at this company and dropped out to become a full-time employee. The company was sold to the Hong Kong public company TapTap around 2021, and I received compensation for my vested options. The team I met there is still one of the best I have worked with.

Educational Background

Guangdong University of Foreign Studies□Computer Application, Associate Degree, 2022.10 - Present

- National Higher Education Self-study Examination. Passed 9 courses as of today, Introduction to Operating Systems, Introduction to Data Structures, Advanced Language Programming (I), English (I), Advanced Mathematics, Database and Applications, Computer Application Technology, Introduction to Law and Computer Organization and Architecture.
- Currently preparing for 7 courses such as Computer Networks, Basic Electronic Technology (III), Microcomputer and Interface Technology, Mao Zedong Thought and Theory of Socialism with Chinese Characteristics, Ideological and Moral Cultivation and Rule of Law, College Chinese and Linear Algebra.

Beijing Forestry University, Digital Media Arts, Bachelor(Dropout), 2013.09 - 2014.06

- Passed 13 courses, like Computer Introduction, Fundamentals of Programming, Programming Fundamentals Lab, College English, Advanced Mathematics, Principles and Techniques of Digital Imaging, Two-Dimensional Graphics Technology.
- Built a campus assistant Android application “Bjfu Assistant”that integrates the functions of checking grades, and alumni forums. It has been downloaded and used by thousands of users on campus. And I built an Android App for learning English by watching movie clips, and won the third prize in a hackathon.
- Ranked in the top 1 in my school’s ACM/ICPC monthly training competition among around 100 top students in the university, including higher grade one.
- Awarded third prize in the “Youth, Health, New Media”digital works creativity contest organized by UNESCO and the Communication University of China for the digital work “Mom Shy To Say”.

Guangzhou Yuyan Middle School, Science, Middle School Diploma, 2007.07 - 2013.06

- Ranked in the top 300 out of 100k students in the Guangzhou High School Entrance exam.

- Ranked in the top 300 in the 2011 Guangdong NOIP(National Olympiad in Informatics in Provinces).

Projects

Corporate Projects

- HSBC Finance Transformation Platform (2025.02 - Present) Participated in the backend development. Used tech stacks like Java, Spring, Python, IBM WebSphere and Copilot.
- AI-powered Story Bot (2024.5 - 2024.7) Participated in the full stack development. Used tech stacks like Python, Flask, React, AWS, and Claude.
- PayMe from HSBC (2022.11 - 2023.07) Participated in the backend development of the auto top-up feature and cloud migration. Used tech stacks like Java, Spring Cloud, Azure, and AWS.
- DBS Digibank CN (2022.7 - 2022.11) Participated in the backend development of mutual funds. Used tech stacks like Java, Spring Cloud, and Pivotal Cloud Foundry.
- DBS Client Connect (2021.12 - 2022.6) Participated in the backend development of equity trading. Used tech stacks like Java, Spring Cloud, and Pivotal Cloud Foundry.
- ShowMeBug (2021.7 - 2021.9) Responsible for the integration between the platform and Enterprise WeChat, including login and easy interview entrance. Used tech stacks like Ruby on Rails, PostgreSQL, and WeChat SDK.
- Square Root Inc Projects (2018.1 - 2019.12) Participated 50 miscellaneous projects including websites, games, apps, and WeChat mini programs. Responsible for team management, contract negotiation, project management, client communications, and some software development.
- Super Brain TV Program WeChat Mini Program (2018.2 - 2018.3) Responsible for the backend and frontend development. Used tech stacks like Java, Spring, JavaScript, HTML, and AliCloud.
- Chongding Conference (2017.9 - 2018.1) Responsible for some backend development and frontend development of the admin panel for a live-streaming trivia app. Used tech stacks like Java, Spring, WebSocket, and Netty.
- Mianbao Live (2017.9 - 2018.1) Responsible for refactoring the backend of a one-stop content monetization platform. Used tech stacks like PHP, TypeScript, Laravel, and Go.
- Fun Live (2016.6 - 2017.9) Responsible for most code development of a knowledge live broadcast platform. Used tech stacks like PHP, JavaScript, HTML, AliCloud, and RTMP Streaming.
- LeanCloud SDK and LeanChat (2014.07 - 2015.10) Responsible for some Objective-C and Java SDK development, and all development of their demo app LeanChat.

Open Source & Blog & Codeforces (2013-09 to Present)

- Explore my open-source projects, corporate initiatives, and personal side projects on GitHub: <https://github.com/lzwjava>
- algorithm-solutions: Solutions to algorithm problems, 2466 commits, Java
- lzwjava.github.io: My blog, 500 commits, English & Chinese
- live-server: Backend of a knowledge live broadcast platform, 660 commits, PHP
- live-mobile-web: Mobile frontend of a knowledge live broadcast platform, 528 commits, Vue & JavaScript
- live-web: Desktop frontend of a knowledge live broadcast platform, 140 commits, Vue
- live-wxapp: WeChat Miniprogram of a knowledge live broadcast platform, 63 commits, JavaScript

- code-review-server: Backend of a professional platform for code review, 275 commits, PHP
- code-review-web: Frontend of a professional platform for code review, 302 commits, Vue & JavaScript
- weimg-server: Backend of an image community, 35 commits, PHP
- weimg-ios: iOS application of an image community, 77 commits, Objective-C
- leanchat-ios: iOS chat application, 556 commits, Objective-C
- leanchat-android: Android chat application, 412 commits, Java
- curiosity-courses: A programming course, 215 commits, Chinese
- LZAlbum: An iOS application similar to WeChat moments, 47 commits, Objective-C
- TabsKiller: A Chrome plugin to help close browser tabs, 19 commits, JavaScript
- Reveal-In-GitHub: An Xcode plugin, 57 commits, Objective-C
- LvchenSign: Website for an advertising signage company, 40 commits, JavaScript
- feynman-lectures-mobi: Tool to convert LaTeX to SVG for creating mobi ebooks, 47 commits, Python
- flower-recognition: Android application for flower recognition, 37 commits, Java
- Creak: A simple HTML parser, 49 commits, Swift

Skills

I have gained a lot of skills since I started programming in 2008. In terms of usage time, the high-level description is as follows. It is different from working experience. I use it to show relative familiarity with my skills.

- 5 or more years of using experience: Chinese, English, Writing, Java, Algorithm, Test-driven Development, Cloud Computing, DevOps, Backend Development
- 3 to 4 years of using experience: Cantonese, iOS Development, Android Development
- 1 to 2 years of using experience: Product Management, Machine Learning, Frontend Development
- less than 1 year of using experience: Japanese

Tools

Below are detailed tools that help me to accumulate the above skills, plus other interesting tools. I am still using some of them and can learn for a few days to use the rest of them again.

- Natural Language: English, Chinese, Cantonese, Hakka, Japanese
- Operating System: Linux, Windows, MacOS, Android, iOS, OpenWRT
- Programming Language: PHP, Java, Objective-C, Swift, Ruby, HTML, C, C++, JavaScript, Lisp, Clojure, TypeScript, Node.js, Go, Python, Pascal
- Domain-specific language: JSON, CSS, SQL, NoSQL, Kusto Query Language, Kibana Query Language
- Database: MySQL, SQLite, PostgreSQL, Microsoft SQL Server, Amazon RDS, MongoDB, IBM Db2, Navicat
- Database Client: Squirrel SQL Client, DBeaver, MySQL Workbench, Sequel Pro, Navicat, Eclipse Data Source Explorer
- Frontend: Vue, React, Angular, jQuery, Hexo, Jekyll, Stylus, Sass, Chrome, Safari
- Framework: RTMP streaming, HTTP/IP, Spring, Spring Boot, Hibernate, Netty, CodeIgniter, Laravel, Flask, Express, Socket.IO, iOS SDK, Android SDK, Flutter

- Big Data: Redis, Kafka, Spark, Flink, ZooKeeper
- Math: Calculus, Linear Algebra, Discrete mathematics, Latex
- IDE: Emacs, IntelliJ IDEA, Visual Studio Code, Xcode, Android Studio, Eclipse, PyCharm, PhpStorm, Sublime Text, Atom, WebStorm, Delphi, Turbo Pascal
- Terminal: Powershell, Command Prompt, iTerm2, GNOME Terminal, Terminal (macOS)
- Development: NPM, Webpack, Git, HomeBrew, Gradle, Maven, Sketch, Cocopods, WordPress, YourKit Java Profiler
- CI/CD: Travis CI, GitHub Actions, Jenkins, Azure DevOps, Control-M
- Monitoring: SonarQube, Prometheus, Elasticsearch, Logstash, Kibana, Nginx, Docker, Kubernetes
- Machine Learning: TensorFlow, PyTorch, Theano, Anaconda, Jupyter Notebook, CUDA, Numpy, Pandas
- Cloud: GitHub, GitLab, Digital Ocean, Vultr, AWS, Azure, Google Cloud Platform, Linode, Alibaba Cloud, Qiniu Cloud, Tencent Cloud, LeanCloud, Firebase, Cloudflare, GoDaddy, Agora, Vercel
- Application Runtime: IBM WebSphere Liberty Server, Pivotal Cloud Foundry, PM2
- Project: Jira, Confluence, ServiceNow, Trello, Microsoft To Do, Tower.im,
- Large Language Model: OpenAI, Claude, MiniMax, Amazon Bedrock, Copilot
- Linux: nmap, grep, awk, ffmpeg, htop, df, lsof, strace, tcpdump, iostat, iptables, rsync, journalctl, systemctl, curl, tmux, traceroute, emacs, diff
- Testing: Postman, Selenium, Karate, JUnit, Mockito, Apache JMeter, Apache ab
- Hardware: Arduino UNO, Raspberry Pi Pico

Domain Knowledge

Below is a summary of my expertise and knowledge domains. While I have a solid understanding of some topics and a more basic familiarity with others, I would be happy to share more in an interview if you are interested in any specific areas.

- Industry Knowledge: Banking and Payments, Education and E-learning Platforms, Social Media and Content Platforms, User and Account Management, Notification Systems, Data and Analytics, Mobile Applications, Payment Systems, Transaction Management, Social Media Integration, Video Management, Reward Systems, Live View Tracking, Application Management, Mutual Funds and Equity Trading, Browser-Based Programming Environments.
- Computer Science Fundamentals: Advanced Mathematics, Computer Organization, Operating Systems, Computer Network Technology, Database and Applications, Computer Application Technology, Data Structures and Algorithms, Microcomputer and Interface Technology
- Technology and Development: Multilingual Communication, Cross-Platform Development, Full-Stack Programming, Database Management, Machine Learning and Big Data, Mathematical Proficiency, Development Tools, Machine Learning Implementation, Advanced Linux Usage, Testing and Quality Assurance, API Integration, Open Source Contributions, Technical Writing and Blogging, Cloud Computing Services, Distributed Systems, High Performance Optimization, Realtime Application, RTMP Streaming, Continuous Integration/Continuous Deployment (CI/CD), Containerization and Orchestration, Network Security, Agile Methodologies, Software Architecture, DevOps Practices, Cloud-Native Applications, API Development, Version Control Systems, Serverless Computing, Performance Monitoring, Data Engineering, Security Best Practices, Software Development Lifecycle (SDLC), Technical Mentoring, Project Management.

Selected Blog Posts

Below is a selection of my blog posts, covering personal growth stories, startup journeys, English learning, programming, geek projects, and more. Please visit lzwjava.github.io and search the titles to check them out.

- Building a Scalable Application on Azure
- Comprehensive Guide to Spring Framework
- Build an AI-Powered Story Bot with Flask, React, and ELK
- End-to-End Trace ID Implementation
- Deploying with Pivotal Cloud Foundry
- The Wisdom of Learning
- Zen and the Art of Machine Learning
- How to Build a Computer
- Introduction to Web Programming
- Practical: Scraping Website Content
- Mastering English: On and Off the Job
- The Journey of Learning English
- How to Improve English Proficiency with Large Amounts of Input
- Turning Feynman's Lectures on Physics Webpages into an eBook
- Setting Up Live Streaming with OBS, SRS, and FFmpeg
- Lieyunwang: Post-95 Entrepreneur Founded Knowledge Live Streaming Platform QuZhibo
- Enhancing iOS Development with Automated Testing and Tools
- My Trip to the United States: First Impressions of Silicon Valley
- Advanced Git Operations and Principles
- Exploring WebSocket
- Porting FFmpeg to Android

- A Deep Dive into Custom Drawing in Android

Papers

I'm a self-taught researcher with three academic-style papers on reversing myopia and natural vision restoration, inspired by the works of Yin Wang and Todd Becker, supported by three years of experimentation. In computer science, I am still striving to make similar breakthroughs.

- Li, Zhiwei. (Jun 2023). *Experimental Verification of the Natural Vision Restoration Method*. Zhiwei's Blog. <http://lzwjava.github.io/vision-restoration-en>.
- Li, Zhiwei. (Jun 2023). *The Discussion Regarding Astigmatism When the Eyeballs Reverse to the Normal Shape*. Zhiwei's Blog. <https://lzwjava.github.io/astigmatism-en>.
- Li, Zhiwei. (Nov 2024). *Natural Vision Restoration: The Principle of 'Just Barely Clear'*. Zhiwei's Blog. <https://lzwjava.github.io/barely-clear-en>.

Books Read

I have read over 320 books spanning textbooks, personal development, business, technology and history. Below are key books and resources that have shaped my thinking.

- Beginning Algorithm Contests - Rujia Liu
- Steve Jobs - Walter Isaacson
- Treat Time as a Friend - Xiaolai Li
- The 7 Habits of Highly Effective People - Stephen R. Covey
- Sapiens: A Brief History of Humankind - Yuval Noah Harari
- Computer Systems: A Programmer's Perspective - Randal E. Bryant, David R. O'Hallaron
- Yin Wang's Blog (yinwang.org)
- Paul Graham's Essays (paulgraham.com)

Entrepreneurial Spirit and Product Mindset

- Founded two startups: one with co-founders, and one created by myself. The latter gained 30k users and once achieved revenue of 3 million CNY a year.
- Secured an investment of around half a million CNY in my startup at 22 years old, and returned it to the investor when shutting down.
- Applied to Y Combinator twice. One time, entered the second round with around a 3% acceptance rate, though didn't make it into the batch.
- Like to initiate new ideas in big companies to actually help the project; tried many ways and created proofs-of-concept in local development in some code branches. Presented them to tech leads to move things forward. Some received good feedback.
- Gained a lot of social media influencing practice, including blogging, WeChat Subscription Channel, TikTok, WeChat Videos, Weibo and LinkedIn. Acquired thousands of followers in several accounts or 60k page views a year.

- Used 3 mobile phones at the same time and thousands of apps and games to experiment with, including different kinds of apps from tens of countries.
- As an early user of Blue Sky, I commented on Jeff Dean's first post here and got a like from him; he is Google's Chief Scientist.
- Own hundreds of small tools and gadgets, such as an Electric/Magnetic Fields meter, telescope etc. And bring them while traveling to discover their potential in different scenarios.
- If things or products are cheap, very willing to buy different kinds to compare and understand their nuances.
- Read around 100 books about business, management, and product. Have some connections with people who are experts in these areas.
- As a crypto and US stock investor since 2018, I took a break due to some losses but resumed investing in 2024, using long-term and regular investing practices. Despite the modest amount, I am pleased to have gained a 25% profit from NVIDIA after one year of regular investing as of July 2025, as well as a 30% profit from some of my Bitcoin investments.

Links

- GitHub
- Blog
- Codeforces
- UVa Online Judge
- Kaggle
- LinkedIn

Certificates

- Beijing Forestry University Dropout Certificate
- China Higher Education Official Report (Bachelor Education, Dropout Status)
- IELTS Academics, Score 6
- Machine Learning Specialization Course Completion Certificate, provided by DeepLearning.AI and Stanford University
- Deep Learning Specialization Course Completion Certificate, provided by DeepLearning.AI
- Developing on AWS, provided by AWS Training

Expectation

- Expected Positions: Full Stack Engineer / Backend Engineer
- Expected Locations: Guangzhou

Portfolio

The PDF file can be found [here](#).

This collection of software represents the diverse projects I have had the privilege to work on throughout the years, in collaboration with various esteemed companies and partners.

I am grateful for the opportunities and experiences these collaborations have provided, and I look forward to continuing to contribute my skills and expertise to future endeavors.

Uva & Codeforces, Java & C++, 2008-2013 & 2021

Solved around 1000 algorithm problems on the online judge.

Uva Online Judge record is [here](#).

The range of algorithm problems I've solved encompasses various areas, including data structures, graph, mathematics, string processing, geometry and several other advanced or specialized topics.

Flower Recognition, Android, 2014.4 - 2014.8

Developed a flower recognition Android application designed to help users identify flowers by capturing photos and drawing circles to aid in recognition.

Technologies Used: Android SDK, Java

Responsibilities: - Implemented the image recognition functionality. - Designed and developed the user interface. - Integrated the photo capture and processing features.

Open sourced at GitHub, 33 commits.

iword, Android, 2014.3

An Android application to help users learn English by watching movie clips.

Technologies Used: Android SDK, Java

Responsibilities: - Developed the movie clip playback and learning interface. - Implemented features to improve vocabulary and comprehension through interactive content.

Achievements: Won Third Prize in the 2014 AVOS Cloud Hackathon.

SegmentFault: Review of the 2014 AVOS Cloud Hackathon Achievements

Bjfu Assistant, Android, 2014.1 - 2014.6

A campus assistant Android application that integrates functions like checking grades and participating in alumni forums.

Technologies Used: Android SDK, Java

Responsibilities: - Developed core functionalities such as grade checking and forum participation. - Designed and implemented the user interface. - Achieved widespread use with around 3500 users at Beijing Forestry University.

LeanChat, Android, 2014.7 - 2014.12

LeanChat is a chat application that includes features such as friend management, group management, location-based messaging, nearby people, personal profiles, and login/register functions, all fully utilizing LeanCloud's storage and communication capabilities.

Technologies Used: Android SDK, Java, LeanCloud

Responsibilities: - Developed friend management, group management, and location-based messaging features. - Implemented personal profiles and login/register functions. - Leveraged LeanCloud's storage and communication capabilities.

Open sourced at GitHub, 412 commits.

LeanChat, iOS, 2015.1 - 2015.10

Developed the iOS version of LeanChat, a chat application that utilizes LeanCloud's backend services for messaging and storage.

Technologies Used: iOS SDK, Objective-C, LeanCloud

Responsibilities: - Built friend and group management functionalities. - Created location-based messaging and nearby people features. - Designed personal profiles and login/register screens.

Open sourced at GitHub, 446 commits.

LeanCloud Java SDK & Objective-C SDK, 2015.4 - 2015.10

Participated in the development of LeanCloud's Java SDK and Objective-C SDK, providing developers with tools to easily integrate LeanCloud services into their applications.

Technologies Used: Java, Objective-C, LeanCloud

Responsibilities: - Contributing to the development of LeanCloud's Java SDK and Objective-C SDK. - Ensuring seamless integration of LeanCloud services such as object storage, file storage, and messaging.

Objective-C SDK documentation and Java SDK documentation.

TabsKiller, Frontend, 2015.7

Developed a Chrome plugin that automatically closes the oldest tabs when the browser gets cluttered with too many tabs, improving browser performance and user experience.

Technologies Used: JavaScript, Chrome API

Open Sourced at GitHub, 19 commits.

Reveal-In-GitHub, MacOS, 2015.10

Created an Xcode plugin designed for seamless navigation to key GitHub functionalities within the current repository. The plugin allows users to quickly access GitHub History, Blame, Pull Requests, Issues, and Notifications.

Technologies Used: Objective-C, Xcode Plugin API

Open Sourced at GitHub, 57 commits.

CodeReview, Full Stack, 2015.11 - 2016.7

CodeReview is a professional platform for code review, communication, and sharing. Engineers can submit their code for expert review to improve the quality of their code.

Technologies Used: PHP, Vue.js, CodeIgniter, Alibaba Cloud

Responsibilities: - Developed the backend using PHP and CodeIgniter. - Implemented frontend features with Vue.js. - Integrated with Alibaba Cloud for scalable and reliable infrastructure. - Handled user management, code submission and review processes, notification systems, payment integration, and event/workshop management.

Open Sourced at GitHub.

- code-review-server, 275 commits
- code-review-web, 488 commits (302 commits by me)

Fun Live, Full Stack, 2016.6 - 2017.12

Fun Live is a knowledge live broadcast platform where users can participate in various knowledge lectures such as programming or design. Users can pay fees to attend live sessions or reward the lecturer.

Technologies Used: PHP, MySQL, Vue.js, CodeIgniter, Alibaba Cloud, SRS streaming, WeChat SDK

Responsibilities: - Developed most of the backend and frontend code. - Integrated the OBS tool for live streaming. - Implemented user registration, payment, and notification functionalities. - Achieved significant user engagement with around 30000 users and millions of page views.

Open Sourced at GitHub.

- live-server, 661 commits (555 commits by me)
- live-mobile-web, 528 commits (426 commits by me)
- live-web, 140 commits
- live-wxapp, 63 commits

Mobile website:

WeChat MiniProgram:

Desktop website:

Mianbao Live, Backend, 2017.10 - 2017.12

Mianbao Live is a one-stop content monetization and social economy solution provider.

Technologies Used: PHP, Laravel, TypeScript, Go

Responsibilities: - Refactored the backend to consolidate logic from multiple languages into one. - Improved performance, stability, and user experience. - Implemented server-side development using Laravel.

The WeChat Miniprogram for Super Brain program, Full Stack, 2018.3 - 2018.4

Developed the WeChat Mini Program for Jiangsu TV's Super Brain program, featuring engaging puzzles for users. Hosts navigate users through oral broadcasts, presenting specific technical challenges.

Technologies Used: Java, Spring, Redis, Alibaba Cloud, WeChat DevTools

Responsibilities: - Developed backend services using Java and Spring. - Implemented frontend components using WeChat Mini Program framework. - Ensured high performance and reliability under high concurrency using Redis.

Chongding, Full Stack, 2017.9 - 2018.1

Chongding is a mobile trivia app similar to HQ Trivia, allowing users to participate in live trivia games with prize money.

Technologies Used: Java, Spring, Redis, Kafka, Zookeeper, WebSocket, Socket.IO

Responsibilities: - Developed backend services and admin panel frontend. - Designed and implemented real-time trivia game functionalities. - Contributed to the technical solution for synchronizing live streaming with game events using SEI (Supplemental Enhancement Information).

Square Root Inc - 50 miscellaneous projects, Project Management & Some Software Development, 2018.1 - 2019.12

Managed and developed 50 miscellaneous projects for Square Root Inc, including websites, games, and WeChat mini programs.

Technologies Used: Various based on project requirements

Responsibilities: - Managed project negotiations, team coordination, and client communications. - Contributed to software development for various projects. - Ensured timely delivery and high-quality outcomes for clients.

(Responsible for Project Management)

ShowMeBug - Enterprise WeChat Entrance, Full Stack, 2021.7 - 2021.9

ShowMeBug is a technology competence assessment platform that supports practical programming, enabling efficient and accurate assessment and recruitment of technical talents.

Integrated ShowMeBug with Enterprise WeChat, enabling seamless access to technical interview tools within the Enterprise WeChat ecosystem.

Technologies Used: Ruby, PostgreSQL, WeChat SDK, Docker

Responsibilities: - Developed integration features for login and interview access. - Conducted technical research on constructing programming environments in a browser using Docker.

LvchenSign, Frontend, 2020.4 - 2020.5

LvchenSign specializes in the production of advertising signage for various businesses and events. With a focus on quality and creativity, it strive to deliver impactful visual solutions that elevate brands and captivate audiences.

Developed the frontend for LvchenSign, a website specializing in the production of advertising signage.

Technologies Used: HTML, JavaScript, CSS, Bootstrap

Responsibilities: - Designed and implemented the website's frontend. - Created an intuitive and user-friendly interface for showcasing products.

Open sourced at GitHub, 40 commits. Online page at lvchesign.com.

DBS Client Connect - Equity Trading, Backend, 2021.12 - 2022.6

Contributed to DBS Client Connect, an AI- and data-driven customer-relationship management platform, focusing on equity trading micro-services.

Technologies Used: Java, Spring Cloud, Jenkins, Pivotal Cloud Foundry

Responsibilities: - Developed backend services for equity trading. Created functionalities for equities display, customer display, pre-trade checks, and order placement. - Integrated Avaloq APIs to enhance the underlying infrastructure and improve user experience.

Image source: <https://www.dbs.com>

DBS DigiBank CN - Mutual Funds, Backend, 2022.7-2022.11

DBS DigiBank CN rethought and redesigned for you to enjoy the faster and more convenient way to bank on the go.

Contributed to DBS DigiBank CN, focusing on backend development for mutual funds micro-services as part of a collaborative team.

Technologies Used: Java, Spring Cloud, Jenkins, Pivotal Cloud Foundry, Kibana

Responsibilities: - Enhanced functionalities for subscribing to and redeeming mutual funds, improving user experience and system reliability. - Fixed bugs and enhanced code for the microservices related to structured investment products, investment portfolio, and transaction list, contributing to overall system stability and accuracy. - Conducted performance tests and analyzed logs to generate reports on QPS, collaborating with team members to optimize performance. - Developed a tool to automate test generation for the testing tool Karate, which streamlined the testing process and improved test coverage.

Image source: DBS Digibank CN

PayMe By HSBC - Auto Top Up, Backend, 2022.12 - 2023.7

PayMe from HSBC is a convenient way to send payments to friends, and make mobile payments to merchants both on and offline.

Technologies Used: Java, Spring, Kafka, Azure, Azure DevOps, AWS

Responsibilities: - Worked with a team of backend engineers to develop the Auto Top Up feature, which automatically tops up funds from the user's credit or debit card when the balance falls below a certain amount. - Collaboratively monitored post-payment events from Azure EventHub, ensuring seamless integration and checking for top-ups whenever a user set up their auto top-up configuration. - Applied object-oriented programming principles to handle cases elegantly, and utilized aspect-oriented programming to audit logs for changes in the auto top-up table. - Assisted the team during the AWS migration process, troubleshooting IAM and RDS configurations to ensure a smooth transition.

Image Source: PayMe By HSBC

AI-Powered Story Bot, Full Stack, 2023.05 - 2023.07

Contributed to the development of an AI-powered story bot using Claude's API for personalized stories.

Technologies Used: Python, Flask, React, Nginx, AWS, Prometheus, ELK stack, ChatGPT-4

Responsibilities: - Developed backend with Flask and integrated Claude's API. - Built frontend with React for prompt setting and management. - Deployed on AWS and used Nginx for secure communication. - Implemented Prometheus for monitoring and ELK stack for log management. - Implemented end-to-end trace ID solution for tracking requests across the system.

Finance Transformation Platform - HSBC, Backend, 2025.02 - Present

Technologies Used: Java, Spring Boot, IBM Db2, Multithreading, Maven, Nexus, Angular, Python, Windows, Control-M, IBM WebSphere Application Server, Copilot, YourKit

Responsibilities: - Developed and optimized backend systems for the Finance Transformation Platform in HSBC's Enterprise Technology Department as a Backend Engineer outsourced under TEKsystems. - Maintained features for financial data processing, including import, validation, and export, while enhancing submission and approval workflows for new financial headers, leveraging expertise in accounting, ledger, and banking systems. - Managed the full development lifecycle from local development to UAT testing and production releases, utilizing Copilot for tasks such as root cause analysis, generating Python scripts, and documenting around 50 technical guides that became key references for teammates. - Developed innovative banking technical solutions using AI tools like Copilot, performance profiling with YourKit, and systematic testing, while functioning as an autonomous AI agent to analyze project architecture, collaborate with teams, and improve through comprehensive logging and documentation. - Explored implementation of an AI software agent in a major financial project using AspectJ to gather extensive logs and convert debug states to text, providing context for AI chatbots.