

Sicheng Ouyang

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Skills

- **Programming Languages:** Python, Java, C++, HTML/CSS, JavaScript, TypeScript
- **Tools/Frameworks:** Git, Flask, React, React Native, MySQL, WordPress, Microsoft Office Suite, LaTeX
- **Languages:** English (Fluent), Mandarin Chinese (Native), French (Basic)

Experience

Advanced A-Level Study Website Co-Founder & Principal Software Development Engineer	<i>Sep 2023 – Aug 2025</i> China · Wuhan
- Built an A-level study exam preparation website using WordPress , PHP , and MySQL , deployed on Tencent Cloud with user login and SEO features, steadily attracting 1,000 daily active users and maintaining high uptime.	
- Curated 50+ study notes and 20+ lecture recordings and organized course content using WordPress , improving learning resource structure and content accessibility for 200+ students and increasing user engagement.	
Tencent Music Entertainment Group 🎵 Machine Learning Engineer	<i>Jul 2024 – Aug 2024</i> China · Shenzhen
- Evaluated 10 speech synthesis models and ran 20+ parameter experiments to improve vocal simulation quality.	
- Integrated models and tuned alignment parameters, achieving a 20% gain in vocal consistency.	
- Produced an AI-generated music video to raise Alzheimer's awareness, gaining over 200,000 views.	
Maps Uncharted Software Development Engineer	<i>Jul 2023 – Aug 2023</i> China · Wuhan
- Developed a mobile android map application that visualizes user-visited locations using TypeScript , React Native , and the Google Maps API , receiving 50+ positive reviews upon launch.	
- Optimized walking trail rendering by merging circles into simplified polygons, reducing storage footprint by 5% , improving rendering performance, and lowering cloud storage usage by 10% .	
Wuhan University of Technology Data Analyst	<i>Jul 2023 – Aug 2023</i> China · Wuhan
- Conducted handwriting recognition experiments by preprocessing hand-drawn samples (noise removal, binarization, vectorization) and building a exploratory dataset using Python , achieving 96% recognition accuracy.	
- Deployed a local deepseek using Ollama , used by 20 users to support research for the School of Physical Education.	

Projects

Chat WebSocket Demo ⚡	
- Delivered real-time chat by FastAPI + WebSocket backend with PostgreSQL and Next.js/React frontend.	
- Secured user access by implementing JWT auth and SMTP email verification, preventing unverified access	
- Improved system reliability and message consistency by designing paginated REST APIs with incremental WebSocket sync, and strengthening robustness through rate limiting and structured error code docs.	
Todo List Web & Desktop Application 📅	
- Built a full-stack task management application using React , Flask , and MySQL , supporting full CRUD operations.	
- Developed a cross-platform system tray desktop app packaged for both Windows and macOS.	
- Fine-tuned BERT to enable natural language task input, parsing user input into JSON format for task creation.	
Personal Website 🌐	
- Built and deployed a production-grade platform using Next.js , TypeScript , Tailwind CSS , MDX , and Vercel , improving page load performance to <0.5s LCP and achieving 0 CLS .	
- Increased search discoverability by implementing custom SEO metadata , automated sitemap generation , domain DNS configuration , and submitting to Google/Bing Search Console.	
Nurel AI playground 🧠	
- Developed a web app with a group of 4 using FastAPI and React that allows users to train AI models with customizable hyperparameters and visualize training in real time, running locally for experimentation.	
Obsidian Oreo Theme Developer 💬	
- Designed a custom Oreo-themed Obsidian theme using HTML and CSS , over 3,000 downloads on obsidian	
Resume Analyzer 📄	
- Developed a resume evaluation tool using Python , Flask , and React and integrated the OpenAI API to generate structured resume feedback.	

Education

University of Waterloo , Canada	<i>Sep 2025 – Present</i>
Bachelor of Software Engineering	
Relevant Courses: Data Structures, Algorithms, Linear Algebra, Object-Oriented Programming, AI fundamentals	