Bolong He

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Full-stack engineer with 7+ years of hands-on experience building scalable systems and Web3 applications using React, Next.js, Python, and Go. With an MSc in Applied Mathematics from SFU, I bring analytical depth, fast learning, and strong problem-solving ability to every project. Experienced in smart contract development, wallet SDK integration, and on-chain data indexing, I care deeply about clean architecture, performance optimization, and code quality. Passionate about crafting reliable, production-grade interfaces and backend services that bridge AI and blockchain technologies through precise engineering and thoughtful design.

Core Stack

Frontend	React, Next.js, Redux, Zustand, Tailwind, wagmi, ethers.js, RainbowKit
Backend	FastAPI, Node.js, Go, MySQL, PostgreSQL, Redis
Blockchain	Solidity, Foundry, Hardhat, on-chain integrations
AI	OpenAI, LangChain, Pinecone, real-time Voice Agents
Infra	AWS (S3, DynamoDB, ECS, etc), Docker, CI/CD pipelines
Testing	Jest, Cypress, React Testing Library

Experience

Present
November 2023

Co-Founder, *Newcast*, Remote.

Building the next generation of real-time voice agents — where AI reasoning meets human-like interaction.

- Co-founded **Newcast** and led the technical direction, driving architecture design, rapid prototyping, and early product validation for real-time AI voice agents.
- Built the initial MVP integrating **LLM reasoning, speech streaming, and contextual memory**, enabling natural, low-latency dialogue between users and agents.
- Designed and implemented modular **RAG and function-calling backends** (LangChain + FastAPI + Pinecone) supporting dynamic API, database, and tool access.
- Architected and deployed containerized microservices on AWS ECS with CI/CD automation, observability, and auto-scaling for multi-environment reliability.
- Collaborated closely with product and GTM co-founders to align technical capabilities with market feedback and evolving user experience goals.

Tech Stack: React, Next.js, LangChain, FastAPI, Pinecone, DynamoDB, ECS, S3, WebSocket

November 2023
March 2021

Frontend Tech Lead, *KnowYourCustomer*, Remote.

- Led a team of frontend engineers in modernizing a legacy AML/KYC platform, driving migration to a unified **component library** and design system adopted across 5+ micro-apps.
- Defined and implemented a scalable **micro-frontend architecture** using Webpack Module Federation, improving build isolation and deployment velocity.
- Oversaw development of a **custom UI toolkit** (React + Tailwind + Storybook), enforcing code standards and reusable patterns across teams.
- Established automated **testing pipelines** (Jest, Cypress) and review workflows, significantly improving release reliability and reducing regressions.
- Collaborated cross-functionally with backend and DevOps leads to align API contracts, CI/CD processes, and release schedules for faster delivery.

Tech Stack: React, Redux, Node.js, Express, Jest, TestCafe

March 2021	**Senior Tech Lead**, *PwC Shanghai Acceleration Center*, Shanghai, China.
February 2020	○ Led a team of engineers to build a full-stack analytics platform in **TypeScript (Node.js + React)**, integrating **D3.js** and Google APIs for advanced business visualizations.
	○ Architected modular backend services and reusable frontend components to enhance maintainability and development efficiency.
	○ Established **CI/CD pipelines** and engineering standards to improve deployment consistency across teams.
	○ Delivered end-to-end platform deployment for PwC internal analytics and reporting applications.
	Tech Stack: React, Node.js, TypeScript, D3.js, MongoDB, MySQL
February 2020	**Python Software Engineer**, *3D Medicines Co., Ltd*, Shanghai, China.
February 2018	∗ *3DMed Star Employee*
	○ Architected an internal **distributed bioinformatics computing system** for large-scale genomic data processing and automated genetic testing report generation.
	○ Developed **NLP-driven context generators** for clinical report drafting — an early prototype of task-specific AI agents in medical domains.
	○ Designed and implemented **Vue-based dashboards** for real-time report visualization and quality control.
	○ Dockerized services and established reproducible deployment workflows across research and production environments.
	Tech Stack: Python (Flask, Pandas), Vue, MySQL, Redis, Docker, Neo4j

Selected Web3 Projects

2025	**MiniDAO Vote App**, *Personal Project*, .
	○ Built a **DAO governance dApp** using Solidity and Foundry, allowing users to create proposals and cast votes via connected wallets.
	○ Implemented front-end in React + wagmi + ethers.js with wallet authentication (RainbowKit) and on-chain proposal state tracking.
	○ Deployed smart contracts to Ethereum testnets and integrated event listeners for live vote updates.
	Tech Stack: Solidity, Foundry, React, wagmi, ethers.js, RainbowKit
2025	**MiniDEX Swap App**, *Personal Project*, .
	○ Developed a **Uniswap-style decentralized exchange demo**, supporting token swaps, liquidity provision, and price impact simulation.
	○ Implemented custom AMM logic in Solidity with unit tests in Hardhat; integrated front-end for real-time pool state visualization.
	○ Explored gas optimization, slippage protection, and error handling for EVM-based swaps.
	Tech Stack: Solidity, Hardhat, React, ethers.js, wagmi

Education

2015-2017	**Master of Science in Mathematics**, *Simon Fraser University*, Surrey, BC, Canada.
2010-2015	**Bachelor in Applied Mathematics**, *York University*, Toronto, ON, Canada.