

Satoshi Konno

Senior Software Engineer

Distributed Databases · Cloud Infrastructure · IoT / Open Source

cybergarage.org
github.com/cybergarage
Tokyo, Japan

PROFESSIONAL SUMMARY

Senior Software Engineer with 30+ years of experience across distributed databases, cloud infrastructure, mobile platforms, and IoT / home-networking. At Yahoo Japan (now LY Corporation), led the full lifecycle — strategy, design, implementation, and operations — of FractalDB, an in-house on-premises multi-tenant NewSQL distributed database powering multiple large-scale services. Previously drove NoSQL (Apache Cassandra) platform operations, Kubernetes-based cloud infrastructure, and legacy system modernization within CTO-direct organizations. Founder of the CyberGarage open-source project, whose frameworks have been adopted in products by Nokia, Panasonic, Toshiba, and Apache Felix. Current work includes local-first AI agent frameworks, desktop prototypes and an AI-assisted book-publishing pipeline.

CORE COMPETENCIES

Architecture	Distributed DB · NewSQL / NoSQL · High Availability · Scalability · DBaaS Design · Cloud / On-premises
Databases	Apache Cassandra · NewSQL (FractalDB) · MySQL · Oracle · DataStax Enterprise · KVS
Languages	Go · Java · C/C++ · Rust · Objective-C · PHP · Perl · JavaScript
Infrastructure	Kubernetes · Docker
IoT / Networking	UPnP · DLNA · ECHONET

PROFESSIONAL EXPERIENCE

Yahoo Japan Corporation (now LY Corporation) | Oct 2005 – Feb 2026 (~20 years) · Tokyo, Japan

- ▶ **NewSQL Platform Lead — FractalDB (NewSQL / Distributed DB)** (Apr 2018 – Feb 2026)
Founded the NewSQL team and drove end-to-end ownership of FractalDB — an in-house on-premises multi-tenant distributed NewSQL database. Responsibilities spanned technology strategy, architecture design, implementation, and 24/7 operations. Consolidated data from multiple large-scale production services, achieving high availability and horizontal scalability. Also oversaw periodic evaluation of cloud and OSS NewSQL systems and managed internship programs.
- ▶ **Database Researcher — CTO Tech Lab** (Apr 2020 – Sep 2023)
Part of a mid-term technology research organization under the CTO, responsible for demand forecasting, long-term technology strategy in the database domain, and cross-team collaboration with platform groups.
- ▶ **NoSQL Platform Engineer — Apache Cassandra** (Oct 2015 – Sep 2022)
Operated large-scale Cassandra clusters: monitoring, automation tooling, incident response, and 24/365 stability. Managed DataStax Enterprise procurement and acted as internal technical liaison. Led OSS contribution initiatives; spoke at Cassandra Summit 2016 (San Jose). Published research on automated root-cause analysis for cloud systems at IEEE PRDC 2019 and in the IPSJ Digital Practice journal.
- ▶ **Cloud / Kubernetes Infrastructure Engineer** (Oct 2014 – Sep 2015)
Built the company's private cloud platform using Kubernetes. Delivered shared secret-key and certificate management systems, a private Docker registry, and CI/CD pipeline tooling, improving service deployment efficiency company-wide.
- ▶ **SWAT Engineer — CTO Technology Strategy Division (Legacy Modernization)** (Apr 2013 – Sep 2014)
Member of a CTO-direct SWAT team modernizing core legacy systems: Yahoo! JAPAN Top and its legacy Topics module (Perl to PHP), Blog system (C front-end to PHP / MySQL), Ad system (C/GCC 3.0), and SMTP system (Java). Improved maintainability, extensibility and operational stability.

Satoshi Konno

Senior Software Engineer

Distributed Databases · Cloud Infrastructure · IoT / Open Source

cybergarage.org
github.com/cybergarage
Tokyo, Japan

- ▶ **Kuro-obi (Black Belt) — Distributed Architecture** (Oct 2014 – Mar 2016)
Appointed by the CTO to Yahoo Japan's highest expert certification in Distributed Architecture. Presented at Developers Summit 2016 and Cassandra Summit 2016; participated in SRDS; responded to METI technical enquiries. Published tech-blog series on distributed systems consistency, CAP theorem, and IoT programming models.
- ▶ **iOS Application Engineer — Mobile Division** (Jul 2010 – Sep 2013)
Served as a core mobile engineer during the smartphone era. Designed and developed the Yahoo! JAPAN official app (surpassed 1M downloads), Yahoo! Auctions iOS app, and multiple internal apps. Contributed to the shared iOS framework YJFoundation (HTTP multipart uploader, camera control components).
- ▶ **IPTV & Digital Home Engineer** (Oct 2005 – Jun 2010)
Collaborated with TV manufacturers and broadcasters on IPTV standardization (METI IPTV Forum). Developed UPnP/DLNA-compliant home-network services for Toshiba REGZA and Sharp AQUOS. Delivered executive demos at CES (Las Vegas) and supported the Yahoo! Everywhere keynote demonstration at CEATEC JAPAN 2007. Attended WWDC 2008 and proposed company-wide iPhone strategy.

Asahi Electronics Co., Ltd. | Apr 1992 – Sep 2005 (~13 years) · Japan

- ▶ **Network Management Systems Engineer** (2002 – 2005)
Designed and developed network management solutions for telecom carriers and ISPs: SNMP-based traffic monitoring, router log collection / configuration management, and broadband (FTTH/ADSL) speed measurement systems (C++ / PHP).
- ▶ **ITS / Telematics · EC Portal · Government Systems** (1997 – 2002)
Open-platform telematics ASP prototype (Windows/Linux); eArena EC portal for Akihabara retailers (Oracle/ASP); municipal water-system GIS and seismic relay system (C++ / SQL Server).
- ▶ **3D / VR Systems Developer · VR SDK Localization (Sense8)** (1992 – 1997)
Built distributed VR systems and nuclear-plant simulators for research institutes. Localized and provided technical support for Sense8 WorldToolKit (IRIX/SunOS/Windows NT). Developed a commercial 3D visual programming language and packaged it as a product.

SELECTED AI PROJECTS

Project	Contribution
Orbit	Developed a TypeScript agent framework with local Ollama and OpenAI / Anthropic adapters. Implemented durable execution, approval checkpoints and recovery; added an optional macOS Apple Foundation Models text provider through a Swift bridge, and cross-platform Linux / Windows CI.
Orbit App	Built an Electron desktop prototype for developer projects and sessions, approval-gated Docker work, and schedules that run while the app is open.
Orbit Nest	Built a beginner-oriented Electron companion prototype with profiles, memory, read-only Markdown / AsciiDoc writing reviews and local Ollama. Added a 2D workboard showing actual task activity and execution receipts, with approval and stop controls.

RESEARCH PUBLICATIONS

International conferences	Konno, S., Défago, X. "Approximate QoS Rule Derivation Based on Root Cause Analysis for Cloud Computing" — IEEE PRDC 2019 Konno, S., Inoguchi, Y. "Exploration of Fault Identification and Automatic Recovery in Cloud-based FPGA Systems" — IEEE ICCE 2024
Journal	Konno, S. et al. "Inference QoS Rule Derivation Based on Time Series Root Cause Analysis" - IPSJ Transactions on Digital Practice, Vol. 2, No. 3 (July 2021).
Master's thesis	"Memory-Efficient Algorithm for Boundary-Value Representation of Images and Its Applications" — JAIST, 2013

Satoshi Konno

Senior Software Engineer

Distributed Databases · Cloud Infrastructure · IoT / Open Source

cybergarage.org
github.com/cybergarage
Tokyo, Japan

PRESENTATIONS AND EXHIBITIONS

Date	Presentation and event
Jan 8, 2024	Exploration of Fault Identification and Automatic Recovery in Cloud-based FPGA Systems — IEEE ICCE 2024, Las Vegas (coauthored conference presentation).
2019	Approximate QoS Rule Derivation Based on Root Cause Analysis for Cloud Computing — IEEE PRDC 2019, Kyoto (coauthored conference presentation).
Sep 8, 2016	Cassandra @ Yahoo! JAPAN — Cassandra Summit 2016, San Jose.
May 20, 2006	Advancing Protocol Stack Development for Networked Home Appliances — ESPer2006.
Aug 24, 2005	Development of a Protocol Stack for Networked Home Appliances — FY2004 IPA Mitou Software Project, final-report presentation.
	Other presentations and exhibitions: Developers Summit 2016 (Tokyo); SRDS International Symposium; executive demonstrations at CES (Las Vegas); Yahoo! Everywhere keynote demo support at CEATEC JAPAN 2007; exhibition at TRONSHOW 2006.

WRITING AND PUBLISHING

Author under the CyberGarage and WellBeing Lab imprints, covering AI, practical programming, databases and IoT, alongside research-grounded health, exercise and sports topics.

Built a Git-managed AsciiDoc-to-EPUB publishing workflow with AsciiDoctor, AI-assisted research and drafting, duplicate and style checks, and KDP-specific validation.

Selected books:

- Getting Started with Local LLMs: Build Your Own AI Environment with Ollama
- Building a Multi-Protocol NewSQL Database in Go
- 毎日を整えるエビデンス習慣 (Japanese)

AWARDS & NOTABLE ADOPTIONS

Year	Organization	Award / Adoption
1998	Sun Microsystems	Java3D Programming Contest — First Prize Winner
2003	IPv6 Promotion Council	IPv6 Application Contest — Excellence Award
2004	IPA (METI)	Exploratory IT Human Resources Project — MITOH Program (Home Network Protocol Stack)
2005	Nokia	mUPnP for C adopted in Nokia 770 Internet Tablet
2006	TRONSHOW	Exhibition at TRONSHOW 2006
2009	Apache Felix	CyberLink (Java) adopted as UPnP Base Driver in Apache Felix OSGi
2011	Panasonic	UPnP framework adopted in VIERA Remote app; Toshiba REGZA TV

EDUCATION & CERTIFICATIONS

M.S. (Informatics)	Japan Advanced Institute of Science and Technology (JAIST), 2013	B.A.	The Open University of Japan, 2004
Certification	IPA Fundamental / Applied Information Technology Engineer (1991, 2001)	MOOC	Machine Learning — Stanford / Coursera (Sep 2014)
Internal Award	Yahoo Japan 'Kuro-obi' (Black Belt) — Distributed Architecture (2014–2016, CTO-appointed)	Highest internal expert certification at Yahoo Japan, awarded by the CTO for outstanding expertise in a specialist domain.	