

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.

CORE COMPETENCIES

Architecture	Distributed DB · NewSQL / NoSQL · High Availability · Scalability · DBaaS Design · Cloud / On-premises	Infrastructure
Databases	Apache Cassandra · NewSQL (FractalDB) · MySQL · Oracle · DataStax Enterprise · KVS	Kubernetes · Docker
Languages	Go · Java · C/C++ · Rust · Objective-C · PHP · Perl · JavaScript	IoT / Networking
OSS / Community	Project Maintainer · Conference Speaker · Tech Blog Author · Internship Mentoring	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 tasked with modernizing core legacy systems: Yahoo! JAPAN Top (Perl → PHP), Blog system (C front-end → PHP / MySQL), Ad system (C/GCC 3.0), and SMTP system (Java). Eliminated over-specialized frameworks and improved maintainability, extensibility, and operational stability.

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- ▶ **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 keynote demo support at CEATEC. 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.

OPEN-SOURCE PROJECTS — CYBERGARAGE

Founder and maintainer of the CyberGarage OSS project (cybergarage.org · github.com/cybergarage). Selected frameworks have been adopted by Nokia, Panasonic, Toshiba, and Apache Felix.

Project	Description	Language
Cloud / Database		
PuzzleDB	Distributed, cloud-native multi-API / multi-model database framework	Go
go-postgresql	PostgreSQL-compatible server implementation framework	Go
go-mysql	MySQL-compatible server implementation framework	Go
go-mongo	MongoDB-compatible server implementation framework	Go
go-redis	Redis-compatible server implementation framework	Go
go-sqlparser	SQL92-compliant SQL parser	Go
uSQL for C++	SQL/UnSQL parser library	C++
IoT / Home Networking		

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uEcho (C/Go/Rust/Python)	ECHONET Lite IoT framework — four language implementations	C/Go/Rust/Python
mUPnP for C / C++	Embedded & mobile UPnP library (adopted by Nokia 770)	C / C++
cybergarage-upnp	Full UPnP protocol stack (adopted by Panasonic VIERA Remote & Toshiba REGZA)	C++
go-net-upnp	UPnP network control library	Go
Net::UPnP	UPnP control library	Perl
Protocol / Networking		
go-graphite	Graphite-compatible metrics server framework	Go
µHTTP for C / C++	Lightweight HTTP client/server framework	C / C++
Virtual Reality / Graphics		
CyberVRML97	VRML97 scene-graph library	Java / C++
CyberX3D	X3D-compliant 3D graphics engine	Java / C++

PUBLICATIONS & PRESENTATIONS

InternationalConference	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. "Approximate QoS Rule Derivation Method Using Time-Series Fault Cause Analysis" — IPSJ Digital Practice, Vol. 47
Master'sThesis	"Memory-Efficient Algorithm for Boundary-Value Representation of Images and Its Applications" — JAIST, 2013
ConferenceTalks	Cassandra Summit 2016 (San Jose) · Developers Summit 2016 (Tokyo) · SRDS International Symposium

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

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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.	