

SWAPNALOKA · PROFILE

# Swapnil Sapre

## Builder · Innovator · Entrepreneur

Semiconductor, Embedded-Systems & Deep-Tech AI Veteran · Advisor · Consultant · Coach · Program Leader · Hindi Poet · Ghazal Singer · Percussionist

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| 24+ | 6+ | Spec to HVM | 4 |
|---|---|---|---|
| years in semiconductors & embedded systems | years leading AI-processor silicon | end-to-end product ownership | books: technology, music, poetry |

## ABOUT

Swapnil Sapre is a semiconductor and systems leader with over 24 years across ASIC/SoC design, chip architecture, AI processors, embedded systems, product engineering and high-volume manufacturing. He has held engineering and product roles at Ambient Scientific, Western Digital, AMD, Freescale/NXP, Mindtree and Wipro, which gives him an end-to-end view from system architecture and silicon to software, productization and commercial deployment.

Today he is Head – Chip and Systems Engineering at Ambient Scientific, the AI processor company, where he leads the full silicon-to-system journey of ultra-low-power AI processors: chip, boards, system software (SDK) and production, with cross-functional teams and global partners. He also advises deep-tech startups and emerging technology organizations on turning ideas into viable, scalable, market-ready products. He builds ventures where technology meets culture, music and well-being, and he mentors engineers and founders.

He studied at IIM Bangalore in its rigorous 2.5-year PGSEM programme in Software Enterprise Management. He is also a trained Tabla and Mridangam player, a singer of ghazals, bhajans and abhangs, the composer of the bhajan album "Raam Gunjan", the founder of the Damruki school of rhythm, and a Hindi poet who writes as "Noor" / "Sopaan Noor". He studies Dharma and Jyotish (Indian astrology) and is a fan of Kho Kho and Kabaddi.

*"Building technology with purpose, businesses with responsibility, teams with trust, and people with empathy."*

## BUILDER · INNOVATOR · ENTREPRENEUR

- **Chiluka (chiluka.online):** A dharmic companion for the family: tradition, faithfully told. Includes guidance services and an installable app.
- **SwaraKul (swarakul.online):** A lineage-centred platform connecting students with gurus of Indian classical music. "Every swara counts."
- **Damruki: School of Rhythm & Seven Swaras (founder):** Hindustani and Carnatic music and percussion (Tabla, Mridangam) for learners of every background; formerly Rhythm Seven. Personal learning paths, workshops and concert tours, and music for well-being rooted in Nada Yoga.
- **Suphala Care (suphalacare.com):** Holistic nutrition and wellness practice of Dr Suguna Sapre (PhD, renal nutrition): personal food plans for weight, women's health, children, seniors and chronic conditions. Co-builder of its digital platform, booking, programmes and the SuViva network of complementary practitioners.
- **Industry showcases:** Proof-of-concept products for MWC 2018/2019 and COMPUTEX 2019, including a 1 TB SD card and the first SD-form-factor NVMe card.

## ADVISORY ASSOCIATIONS

- **Yadot (yadot.ai):** Strategic Advisor · music learning through robotics, XR and AI
- **Mobil-Flex (mobil-flex.com):** Advisor · PDC Personal Data Center, affordable edge HPC
- **Ketuna:** Skilling & mentoring partner · semiconductor, embedded, product and system skilling

**Advisory areas:** Semiconductor engineering · Embedded & system engineering · Operations & production (foundry, OSAT, test, qualification, HVM) · Production skilling · Soft skills & leadership · Ongoing professional support (due diligence, design and

program reviews, team building)

## ADVISORY · CONSULTING · COACHING

- **Deep-tech & semiconductor advisory:** FPGA prototyping with PPA trade-offs; chip development, tape-out readiness and production operations; edge-AI platform strategy.
- **Strategy for startups & services firms:** Deep-tech go-to-market and customer acquisition; L&D; strategy; program management; art, music and wellness ventures.
- **Coaching & mentoring:** Engineers moving into architecture, product and leadership roles; founders turning a technical idea into a product; part-time faculty.
- **Speaking:** PPA as a product decision · Spec to silicon to volume · Bring-up and verification that catch real bugs · Open hardware and India's deep-tech ecosystem · Skilling semiconductor engineers.

## CORE EXPERTISE

- ASIC / SoC / VLSI: spec to GDS
- Pre- & post-silicon verification and validation
- Tape-out to production: wafer sort, OSAT, packaging
- High-volume manufacturing and cost optimization
- Embedded bring-up and SDK releases
- FPGA prototyping on Intel and Xilinx
- RISC-V and ARM platforms
- Power, performance and thermal optimization
- Test, evaluation and customer boards
- Characterization, qualification and reliability
- Storage: SSD, SD/microSD, NVMe, UFS, USB
- Product line and program management

## CAREER AT A GLANCE

**2026 – now** — **Consultant & Advisor** · Independent
Strategic advisor to Yadot and Mobil-Flex; skilling and mentoring partner of Ketuna (semiconductor, embedded, product and system skilling). Part-time engagements in FPGA prototyping, deep-tech GTM, AI vision chips, AR/VR learning, and teaching.

**2020 – now** — **Head – Chip and Systems Engineering** · Ambient Scientific
Leads the full silicon-to-system lifecycle of ultra-low-power AI processors at the AI processor company: chip spec to GDS2, pre- and post-silicon verification and validation, bring-up, SDK and system software, test/evaluation/customer boards, and tape-out to high-volume production; built the always-on audio wake-word and vision validation methodology that opened the platform to ML developers; leads cross-functional chip, system and software teams with global partners.

**2012 – 2020** — **System Architect, Technologist & Product Line Manager** · Western Digital
Flash-storage products (SD, microSD, SSD, NVMe) from SoC architecture to certified shipping product; ran the SD/microSD line.

**2011 – 2012** — **Senior Design Engineer** · AMD
Fusion SoC verification; led the global graphics OVC; DDR3 PHY DFx.

**2007 – 2011** — **Module Lead** · Mindtree
DMA controller architecture, a configurable SoC verification platform, DO-254 IP; clients included Intel and Nokia.

**2006 – 2007** — **Design Engineer** · Freescale (NXP)
ARM platform SoC verification; "BRAVO" award for the ARM validation suite.

**2004 – 2006** — **Project Engineer** · Wipro
IEEE 1394, SATA and DO-254 aircraft-engine control IP.

**2002 – 2004** — **Lecturer & Embedded Developer** · PCCE Goa · Infocorp
Taught VLSI and embedded systems; built embedded products.

## BOOKS & PUBLICATIONS

- **Nuts and Bolts of Open Hardware:** Technology, 2012 (ISBN 9781300339861)
- **Python — a Kid's and Hardware Engineer's Perspective:** Technology, 2012 (ISBN 9781300339403)
- **Understanding Indian Music through Rhythms:** Music course book, 2016 (ISBN 9781365588259)
- **Noorana:** Hindi poetry (bhaav sangrah), as "Sopaan Noor"
- **Chuski:** Hindi poetry, in progress
- SNUG 2007: Constrained Driven Random based Methodology for Verification of Generic Designs

- IPESC '09, Grenoble: configurable System-on-Chip methodology
- ICWET '11: Design and Implementation of Universal DMA Controller
- FOSS.IN '09: VLSI Ecosystem and Open-Source Movement, an open-hardware perspective
- Peer reviewer for the IEEE National Symposium on VLSI Design & Technology (2007, 2009, 2012) and DAC 2010
- Mungi Udali Akashi: When the Small Transcends the Infinite (LinkedIn, Nov 2026)
- How to Select the Right AI Model for Your Edge Hardware (LinkedIn, Nov 2026)
- SDK-First Thinking: Building Developer-Friendly AI Platforms (LinkedIn, Nov 2026)
- Regular LinkedIn posts on SoC verification craft: bus bridges, regressions, testbench libraries, CSR maps

## HINDI POETRY · NOOR

Writes Hindi poetry as "Noor" (light) and "Sopaan Noor" (steps of light): ghazals, nazms, geet and bhajans about love, longing, devotion, family, Dharma and everyday joy. Collection: "Noorana" (bhaav sangrah); next, "Chuski" (in progress).

Honoured as a "Literary Colonel" for promoting Hindi literature. Organizes Kavi Sammelans and poetry ensembles, and often sets his own verse to tune and taal.

## MUSIC & ARTS

Began Tabla at six in Bhopal under Shri Sanjay Mishra. Completed a 10-year course at Indira Kala Sangeet Vishwavidyalaya, Khairagarh, trained for five years with Shri Suresh Samant in Pune, and has studied for 15 years with Dr. Aneesh Pradhan (Mumbai).

Trained in Mridangam under the late Vidwan Dr. Nandyala Ramamurthy (Nadabrahma Thyagaraja Ashram, Bengaluru), bridging the Hindustani and Carnatic rhythm traditions. Has accompanied instrumental and vocal artists and Kathak, Bharatanatyam and contemporary dance.

Composed and recorded "Raam Gunjan" (11 bhajans). Organizes Kavi Sammelans, and teaches through Damruki, where he plays Tabla and Mridangam with flautist Samarth on the "Bansuri Beats" YouTube series.

**Repertoire:** Ghazal & Nazm · Khayal, Dhrupad, Prabandh · Carnatic kritis (Thyagaraja, Purandaradasa) · Bhajan, Kirtan, Abhang (Hindi, Marathi, Kannada) · Qawwali & Sufi · Folk & film

## HONOURS

- Recognized by the President of India for a paper on re-engineering engineering education
- "Literary Colonel" for promoting Hindi literature
- "BRAVO" award, Freescale, for the ARM validation suite

## BEYOND WORK

- **Dharma & the saints:** scriptures and poet-saints, from Sant Muktabai to Purandaradasa
- **Jyotish:** Vedic astrology: grahas, nakshatras, panchang
- **Desi sports:** Kho Kho and Kabaddi
- **Solo travel:** mountains, villages, riverbeds, temples and folk rhythms
- **Nada Yoga & wellness:** sound as meditation; holistic education
- **Tinkering:** FPGA boards, RISC-V cores, Python, teaching kids to build

## EDUCATION

- **M.S., VLSI CAD:** Manipal University
- **PGSEM, Software Enterprise Management (2.5-year programme):** IIM Bangalore
- **DLP, Embedded Systems:** IIT Bombay (Powai)
- **PG Diploma, VLSI:** Bitmapper Integration Technologies
- **B.E., Electronics & Telecommunication:** BIT Durg

## CONNECT


- **Location:** Bengaluru, India
- **LinkedIn:** linkedin.com/in/swapnils29
- **Email:** sapreswapnil@yahoo.co.in
- **YouTube:** Damruki: Bansuri Beats playlist
- **Books:** amazon.in: author Swapnil Sapre


*Open for advisory, consulting, coaching, mentoring and speaking, and for making music and poetry together.*