

Chandra Prabhanjana Kumar

AI Engineer · Embedded Application Architect (25 yrs) · Founder, TURYN Tech Labs

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Summary

AI engineer building **AI-powered applications** with AI-native development workflows (Cursor, Claude Code cli, and the agentic-coding workflows). Currently building **SyntaxLens** — an AI-powered platform that helps developers rapidly comprehend new programming languages through transfer learning. Deeply passionate about Developer tools and workflows.

A 25-year **embedded application architect** with deep background in C/C++, Qt/QML, JavaScript runtime internals, and system-level architecture across large-scale set-top-box and automotive platforms (deployed in Malaysia, Qatar, South Korea) — the systems foundation that makes AI-generated code legible and worth trusting.

Core Competencies

- **AI-native development:** AI-native dev tools (Cursor, Claude Code, GitHub Copilot, Windsurf); building AI-powered applications; LLM integration; agentic & AI-assisted development workflows
- **Languages & frameworks:** C/C++, Qt/QML, JavaScript, Node.js, Python, React, HTML5/CSS3, C#/.NET
- **Embedded & systems:** Linux kernel, U-Boot, device drivers, RTOS (OSEK), memory management, boot optimization
- **Domains:** Set-top boxes, automotive infotainment, smart TV, building automation, DSP assembly translators/compilers

Experience

TURYN TECH LABS PVT. LTD. — VIJAYAWADA, INDIA

Founder & Architect · Jul 2025 – Present

- Building **SyntaxLens** — an AI-powered semantic learning platform helping developers, educators, and students learn, create, and share expert insights on programming languages via a transfer-knowledge methodology; accelerating how fast engineers shift between languages and build accurate mental models for evaluating AI-generated and unfamiliar code.
- Architected the three-layer explanation system (**Surface / Concept / Paradigm**) for cross-language learning.
- Conceptualized and built **WhatIsNextQuestion.com** — an innovative thinking tool that reflects a question back in three directions, helping the user find clarity under confusion.

SYNAMEDIA (FORMERLY CISCO / NDS) — INDIA

Sr. Lead Software Architect · Nov 2018 – Jul 2025

- Architected enterprise-grade C/C++ + Qt/QML **set-top-box UI** across multiple platforms and versions (hands-on application architect).
- **Astro (Malaysia)** and **beIN Sports (Qatar)** STB deployments (both live in production) — resolved architectural issues, supported teams through complex technical problems, and joined critical customer calls as subject-matter expert.
- Achieved **50–60fps** UI performance on constrained hardware — hands-on profiling and root-cause investigation to identify the issues and design the fixes (scenegraph tuning, memory optimization), delivered with the team as architect.
- Pioneered an **AI-driven development workflow** for Qt/QML — used AI tools to identify pitfalls and acceleration points in existing code, then regenerated it purely through the AI workflow; built and demonstrated a working prototype to management and the CEO (led hands-on, with ~2 engineers supporting).

CISCO (NDS R&D) — INDIA

Architect · Jan 2012 – Nov 2018

- Designed and built the initial prototypes of a **Brackets-based HTML application designer** for the STB UI dev kit (Node.js, JS), then owned the architecture and supported the team through to a deployable, actively-used tool — used to build and configure HTML EPG and apps for set-top boxes.
- As developer, built an **Android OpenGL 3D renderer** to display 3D-TV UI scenes on set-top boxes, plus a **Cinema 4D exporter plugin** that converted the design team's scenes to COLLADA format for rendering on the platform.
- Created "**Tritiya**" (solo) — an experiment in building a **pure-CSS 3D UI (no JavaScript)** for better performance on constrained hardware; presented at Cisco DevCon, Monaco, earning a 5/5 executive rating.

LG SOFT INDIA — BANGALORE, INDIA

Sr. Technical Lead · Jan 2002 – Jan 2012

- **Volkswagen RCD200/300** automotive infotainment — personally coded the CD MP3-player and rotary-encoder drivers, and led the device-driver team (LCD and power-amplifier drivers by two members); solved critical app-level power-management issues on-site at the LG factory, Pyeongtaek, South Korea (based there ~3.5 years).
- Personally wrote the **execution engine** of a JavaScript/ECMAScript implementation (with security library); the parser was built by another engineer.
- Ported the **U-Boot** bootloader for the Blackfin processor — solo, hands-on, end to end.
- Designed and built the **memory manager** used by the DCMCC MHEG application engine to allocate UI objects as it builds the interface.
- Architected a C#.NET **building-management system** for LG HVAC (integrated with Niagara) and implemented several modules — a desktop application used by designers and building operators.
- Architected and built the **Eclipse workflow plugins** for the first LG Smart TV app-platform developer kit — enabling external developers to create HTML TV apps (ready-made sample TV apps by other team members).

DACS SOFTWARE PVT. LTD. — BANGALORE, INDIA

Software Engineer · Oct 2000 – Jan 2002

- Contributed to **VML (Virtual Machine Language)** — an assembly-to-assembly translator that ports codec and other code between DSP chipsets (TI, Motorola), so code written for one chipset can run on another. Built the module that **optimized the generated assembly to execute in fewer cycles**, applying loop unrolling and software pipelining tuned to each chipset's specs (TI C54x/C62x, ZSP).

Education

- **M.Sc. Computer Science** — Sri Venkateswara University Campus, Tirupati (1998–2000)
- **B.Sc. Computer Science** — Priyadarshini Degree College, Sri Venkateswara University (1995–1998)

Recognition & Awards

- **2014** — Completed Cisco Technical Leadership Incubation Program
- **2013** — Outstanding Innovation Award, DevCon Monaco (5/5) for CSS3D tool “Tritiya”

- **2012** — Award for contribution to Mu 3D authoring workflow toolset
- **2011** — Idea Innovation: TV-friendly user manual for LG Microwave Oven
- **2010** — Certificate of Excellence, Technical Innovation in Automotive Systems
- **2007** — Special Achievement Citation, full-lifecycle onsite Volkswagen project
- **2003** — Technical Excellence Award, Embedded Systems Development

International Experience

- **South Korea** — Volkswagen RCD200/300 delivery & OEM acceptance at LG Electronics, Pyeongtaek (on-site ~3.5 years)
- **Monaco** — Cisco DevCon technical presentation & innovation showcase
- **Malaysia** — Astro deployment, on-site integration & demonstration
- **Israel (Tel Aviv)** — attended Qt/QML custom-widgets (C/C++) workshop by Qt experts