

Mr. Nitikorn Sriautha

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Education

- **Master of Science (M.Sc.) in Information Technology**
King Mongkut's University of Technology Thonburi (KMUTT) | 2003
- **Bachelor of Engineering (B.Eng.) in Control System and Instrumentation Engineering**
King Mongkut's University of Technology Thonburi (KMUTT) | 2001

Professional Summary

A highly visionary and accomplished **Principal Software Engineer and Solutions Architect** with over **20 years of deep expertise** spanning low-level systems programming (**Windows OS Internals, C/C++, Kernel-Mode Minifilter Drivers**) and modern, high-performance enterprise architectures. Proven track record in designing next-generation cybersecurity products, real-time surveillance streaming solutions, and scalable multi-tenant platforms. Highly adept at bridging the gap between OS-level constraints and cutting-edge cloud-native full-stack technologies, including **.NET 9.0, gRPC, Blazor WebAssembly, and Angular within Nx Monorepos**. Recognized for driving structural innovation, optimizing system throughput, and delivering robust, secure-by-design enterprise ecosystems.

- **Systems & Security Innovation:** Designed and implemented kernel-mode drivers (.sys) and native cross-platform (Windows/macOS) security clients featuring high-throughput, low-latency Delta Frame Streaming algorithms.
- **Enterprise Architecture:** Architected scalable multi-tenant microservices and modern web ecosystems using .NET 9, high-performance gRPC streaming, and advanced frontend structures (Blazor WASM, MudBlazor, LIFF).
- **Monorepo & Frontend Modernization:** Engineered enterprise frontend codebases utilizing Nx Monorepo, Angular, Vite, and Tailwind CSS to optimize build delivery and scalable code-sharing.
- **Proven Legacy:** Over two decades of experience in real-time system monitoring, cryptographic data protection at rest, and seamless hardware/biometric authentication integration.

Professional Experience

KDTS Co., Ltd. (Thailand)

Principal Software Engineer & Technical Lead | May 2001 – Present

Directing the architectural design and implementation of enterprise-grade endpoint security, privileged identity management, and low-level system software. Lead technical decisions regarding Windows OS internals, kernel-mode driver development, and secure cross-platform integrations.

- **Product Modernization & Cross-Platform Expansion (2024 - Present)**
 - **Next-Gen Illegalview Enterprise System:** Modernized the flagship endpoint monitoring suite by architecting a high-performance client-server infrastructure. Integrated the core with a newly developed centralized web console (.NET 8.0/9.0 & Blazor) driven by high-throughput gRPC streaming pipelines for real-time policy enforcement and security event transport.
 - **Low-Latency Surveillance:** Developed a high-performance screen surveillance subsystem using native C++ (Win32/x64), implementing a custom **GDI capture and Delta Frame Streaming Algorithm** to minimize CPU and network overhead.
 - **Cross-Platform Delivery (macOS):** Architected and built the native **macOS Illegalview Client** using **Swift** and Swift Package Manager (SPM), ensuring compliance with macOS App Sandbox and Entitlements.
- **Privileged Identity & Authentication Architecture:**
 - **SPIDER (2014 – Present):** Designed and developed a web-based Privileged Identity Management (PIM) system to automate cross-platform (Windows/Linux) account life-cycle management, scheduled password rotations, and time-bound access controls.
 - **USB-AUTH (2022 – 2023):** Engineered a custom hardware-based authentication solution for Windows 10/11, intercepting **Windows Credential Providers** to enforce physical USB-presence login and automated session locking.
 - **KTSS Security Suite (2004 – 2009):** Coordinated security service orchestration via KTSS Controller, implemented a custom **GINA module (KTSS Login)** to enable biometric fingerprint logon for Windows, and built centralized user identity APIs.
- **Data Security & Auditing Utilities:**
 - **PAN & PAN RT (2020 – Present):** Designed a standalone CUI utility (PAN) and a real-time client-server architecture (PAN RT) for sensitive data discovery (PCI-DSS compliance) featuring hash-based change detection across MySQL, MSSQL, SQLite, and Office/CSV documents.
 - **Datawall (2007 – 2010) & File Lock (2003 – 2005):** Engineered full-disk on-the-fly encryption/decryption file filter drivers and virtual drive layers to guarantee comprehensive data-at-rest protection.
 - **FILE CHECK & RDP View (2019 – 2020):** Developed client-server file integrity monitoring (FIM) using SSH-based remote execution (CRC32 checks), and

designed desktop applications for live simultaneous screen viewing of RDP sessions on shared servers.

- **WorkReport (2005 – 2006):** Built client-server employee activity monitoring systems to track application usage metrics and deliver productivity analytics.

Tools & Methodologies:

- **Architectural Patterns:** Microservices Architecture, Multi-Tenant SaaS Design, Client-Server Architecture, Domain-Driven Design (DDD) principles, Centralized Identity & Access Management (IAM).
- **Development Tools:** MSBuild / .NET CLI, Nx Build System, Swift Package Manager (SPM), NuGet, Visual Studio, VS Code, Xcode.
- **DevOps & Automation:** Containerization (Docker), Multi-Environment CI/CD Pipelines (YAML), Automation Scripting.
- **AI & Productivity:** AI-Assisted Software Engineering (GenAI for Rapid Prototyping & Code Translation)
- **Testing & Quality Assurance:** Visual Studio Unit Testing Tools (MSTest), Git Version Control.

Technical Skills

- **Programming & Core Systems:**
 - **Languages:** C/C++, C#, Swift, TypeScript, JavaScript, Assembly (x86), SQL.
 - **Core Systems:** Windows OS Internals (Kernel & User-Mode), Linux (Basic/Intermediate), Data Structures & Algorithms, Performance Optimization.
- **Low-Level & System Programming:**
 - **Windows Driver Development:** Windows Kernel-Mode Development, File System Minifilter Drivers (.sys) for active access control and file blocking (Read/Write restriction based on configuration), legacy File System Filter Drivers (on-the-fly encryption/decryption), Network Drivers, Keyboard Drivers.
 - **Networking & Protocols:** High-performance gRPC streaming, gRPC-Web, Custom TCP/IP Stack implementation, proprietary secure network protocols, Server-Client Architecture using Windows Sockets (Nonblocking I/O, Overlapped I/O).
 - **Windows System Internals & API Hooking:** API/COM Hooking (Process/File hiding, User32/DirectWrite text capture, credential provider interception), Clipboard/OLE Interception (IDataObject), Native Applications (pre-Win32 subsystem initialization), Real-time GDI Screen Capture & Recording algorithms.
 - **Authentication & Security Systems:** Custom Windows Credential Providers (USB Authentication), GINA/Winlogon customization (Win2000/XP), Biometric Integration (Fingerprint devices), Cryptographic Algorithm Design.
- **Web & Enterprise Technologies:**
 - **Backend & Frameworks:** .NET 9.0 / 8.0 (ASP.NET Core), EF Core Identity, LiteDB (Embedded NoSQL), SQLite.
 - **Frontend & Web Development:** Blazor WebAssembly, MudBlazor, Angular (Latest), Nx Monorepo Architecture, Tailwind CSS, jQuery, React, Progressive Web Apps (PWA), LINE Front-end Framework (LIFF).
 - **Real-Time & Optimization:** High-performance data synchronization using gRPC and WebSockets.
- **Cloud & Infrastructure:**

- **AWS:** AWS Lambda (Alexa Custom Skills), EC2, S3, IoT, DynamoDB.
- **Azure & Google Cloud:** Azure Web Hosting, Firebase Hosting, Cloud Run, Cloud Storage, Firestore.
- **DevOps & Deployment:** Containerization (Docker), Multi-Environment CI/CD Pipelines (YAML), MSBuild / .NET CLI.
- **Cross-Platform & Hardware Development:**
 - **macOS Development:** Native macOS applications using Swift, adhering to macOS App Sandbox and Entitlements, integrated with gRPC Swift.
 - **Mobile & Embedded:** Android SDK, Game Console Development (Nintendo DS SDK & Homebrew), Microcontroller Engineering (**ESP32**, Arduino, PIC, ARM, Atmel AVR).

Specialized Projects & Technical Insights

- **Security Research & Binary Analysis:** Conducted deep binary analysis on commercial desktop reader applications; successfully reverse-engineered data structures from SQLite databases, analysed cryptographic key/salt generation, and interfaced directly with dynamic-link libraries (DLLs) to evaluate DRM validation workflows.
- **Enterprise Document Rendering Optimization:** Resolved complex typography and script rendering bugs within PDF generation engines, specifically developing a programmatic layout solution to correct floating and misplaced Thai tonal marks across non-standard enterprise fonts.
- **Low-Level Document Automation:** Programmed automated document generation and high-volume data transformations by directly manipulating open-standard document layers via raw XML schema transformations.
- **Embedded Systems & Hardware Interoperability:** Developed optimized firmware and software solutions for resource-constrained platforms, with hands-on execution across diverse microcontroller architectures including **ESP32**, ARM, PIC, Atmel AVR, 68000, and legacy embedded SDKs (Nintendo DS Homebrew, Nokia Symbian).
- **Telephony Infrastructure Integration:** Integrated enterprise communication frameworks utilizing the TOT Telephone Directory Server SDK (OSA API) and Telephony API to enable direct programmatic interfaces with legacy Nortel hardware platforms.