

Emiliano Schmid

CHIEF SOFTWARE ARCHITECT | PRINCIPAL C++ ENGINEER

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PROFESSIONAL SUMMARY

Hands-on Chief Software Architect with 20+ years building production systems where performance, latency, reliability and hardware integration matter. Deep expertise in modern C++, real-time video, computer vision and distributed architectures. Founded Danaide's software development function and has led architecture, implementation and delivery of video-management, ANPR and live-analytics platforms at urban scale. Combines low-level engineering depth with pragmatic leadership, DevOps and end-to-end operational ownership.

Core expertise: Modern C++ and performance | Distributed and real-time systems | Video streaming and computer vision | Technical leadership | Hardware and protocol integration | DevOps and production delivery

CAREER IMPACT

- **20+ years** - Designing and shipping software across television automation, high-reliability game platforms, public-safety systems and applied AI.
- **Software leadership since 2009** - Built Danaide's development function and continues to combine architecture ownership with hands-on implementation.
- **Production scale** - Systems supporting thousands of continuous video streams and ANPR deployments that process millions of vehicles per day.
- **Real-world delivery** - Platforms deployed across cities, airports, prisons, stadiums, highways and transport infrastructure.

PROFESSIONAL EXPERIENCE

DANAIDE | Chief Software Architect & Head of Software Development

2009 - Present

Digital security and public-safety systems | Argentina and international deployments

- Founded and built the software development function from the ground up, defining technical infrastructure, engineering practices, recruiting processes and a culture of participative design and open technical debate.
- Architected and remained a lead developer on UltraIP VMS, a scalable video-management and analytics platform for urban deployments, continuous operation and thousands of camera streams.
- Designed Central ANPR for high-volume traffic environments; the largest deployments process millions of vehicles per day with camera integration, traceability, event pipelines and operational monitoring.
- Led facial-recognition and live-analytics capabilities that turn video streams into real-time metadata, events and alarms for public-safety operations.
- Created advanced C++ foundations - including ORM and serialization frameworks, concurrent components, device drivers and protocol adapters - using STL, Boost, templates and metaprogramming.
- Introduced CI/CD and production automation with GitLab CI, Docker, Kubernetes, GitOps and Ansible; championed containerization across products.
- Recruited, mentored and led engineers while coordinating architecture and delivery with management, engineering, support, operations, clients and hardware vendors.
- Integrated cameras, ONVIF/RTSP devices, third-party SDKs, IoT hardware and augmented-reality devices; contributed to cloud-ready surveillance architectures.

ID GAMING / ID INTERACTIVE | Game Developer & Platform Maintainer

2005 - 2009

Casino game software and shared development platform

- Owned the full lifecycle of multiple casino games: feasibility analysis, mathematical and application design, C++ implementation, LASH/Flash interfaces, utilities, integration and deployment.
- Became maintainer of the shared game-development platform and extended the LASH language with type inference, higher-order and generic functions, and enumerated types.
- Built high-reliability software at the intersection of hardware, communications and user interfaces, with a strong focus on correctness and platform stability.

BUENOS AIRES CITY GOVERNMENT PROJECT | Full-Stack Developer

2004 - 2005

Inter-American Development Bank-financed modernization project

- Helped replace a legacy budget-allocation system with a web platform and created an object-oriented PHP framework for consistent, maintainable view development.

CIUDAD ABIERTA | Independent Software Developer

2004

Buenos Aires television channel

- As sole developer, delivered in three months a desktop application that generated 24-hour programming playlists from user rules and provided automated scheduling suggestions.

SELECTED CURRENT & INDEPENDENT WORK

- **TicketMage** - Current applied-AI product for operating Jira through natural-language chat, real-time voice, files and Telegram, producing actions, comments and reports under the user's permissions.
- **Technical writing** - 15 articles on C++, performance, software architecture, hardware integration and applied AI at emilianoschmid.me.
- **Built from first principles** - 3D engine, compiler to assembly, Turing-machine-to-3SAT translator, ONVIF Android camera, trading engines and a crowdfunding platform with a secondary market.

TECHNICAL SKILLS

Languages: C++ (expert: modern C++, STL, Boost, templates, metaprogramming, concurrency, performance), C#.NET, Python, JavaScript, Java, PHP, Go

Real-time and video: TCP/UDP, RTP/RTSP, WebSockets, HLS, MPEG-DASH, H.264, MJPEG, ONVIF, FFmpeg/LibAV, Live555, device SDKs

Architecture and platform: Distributed services, event systems, NATS, Redis, observability, resilience, Docker, Kubernetes, GitLab CI, GitOps, Ansible, Linux

Data: PostgreSQL, SQL Server, MySQL, SQLite, MongoDB

EDUCATION

UNIVERSIDAD NACIONAL DE LA PLATA (UNLP) | Licenciatura en Informática

1998 - 2004

Faculty of Informatics | La Plata, Argentina

- Teaching Assistant in Functional Programming and Formal Languages; recipient of a LIFIA research scholarship.