

PHILIP ZHANG

AI-ASSISTED ERP ARCHITECT & BUILDER | ENTERPRISE AI ENGINEERING | 28 YEARS SAP

Sydney, Australia | Australian Permanent Resident | philip.zhang@hotmail.de | linkedin.com/in/philip-zhang-9a59007

EXECUTIVE PROFILE

AI-Assisted ERP architect and hands-on builder with 28 years of SAP and enterprise-application experience. Combines deep ERP, finance, tax and integration knowledge with practical engineering of AI agents, local LLMs, RAG systems and running business software. Unlike profiles focused primarily on AI strategy or governance, Philip works on the implementation layer: where agents fit, how tools and context are controlled, what can be automated safely, and where expert judgement remains indispensable. Fluent in English, German and Chinese, with extensive cross-border architecture and delivery experience.

AI-ASSISTED ERP DELIVERY FOCUS

- **From architecture to running software:** convert ERP domain knowledge into data models, APIs, workflows, controls, tests and deployable applications.
- **Agents that perform real delivery work:** use specialised AI assistance across analysis, design, coding, testing and documentation while keeping release accountability with the domain expert.
- **Enterprise AI that carries its weight:** evaluate local LLMs, RAG, memory, tool planning, context boundaries and human review against reliability, traceability and operational usefulness.
- **The SAP-to-AI bridge:** apply 28 years of ERP architecture and transformation experience to distinguish plausible demos from software that can support real business processes.

SELECTED AI & PRODUCT PORTFOLIO

Dragon ERP | AI-ASSISTED FINANCE & ENTERPRISE PLATFORM | 2026

- Architected and built a working finance-oriented ERP to test how an enterprise domain expert can use AI-assisted engineering to convert process knowledge into executable, governed software.
- Implemented 139 unique API operations over 33 data entities using FastAPI, Pydantic, SQLAlchemy and MariaDB, with a JavaScript front end, REST services, Docker Compose and HTTPS/TLS.
- Delivered balanced GL posting, chart of accounts, tax codes, document import/reversal, sales and purchase orders with automated AR/AP postings, bank reconciliation, fixed assets and depreciation, four core financial statements, audit/RBAC and controlled month close.
- Built 40 unique backend test functions plus data-driven Playwright and API workflows; stored reports record 16/16 end-to-end API steps and 29/29 navigation checks passing, with completed month-close evidence.

Travel4Health | ADDITIONAL ENTERPRISE APPLICATION PROTOTYPE | 2026

- Designed and implemented an Australia-to-Shanghai healthcare-travel monorepo spanning a NestJS/Prisma API, MariaDB, shared TypeScript contracts and an Expo/React Native mobile client.
- Built 53 API route handlers and a 12-model domain schema covering bilingual catalogues, registration, email verification, password reset, health-check bookings, itineraries, orders, payment records and profile flows.
- Added content administration, media upload, granular roles/permissions, mock payment and Stripe/PayPal checkout paths, plus validation, rate limiting, CORS, Content Security Policy, HSTS and secure session patterns.
- Validated the current API and mobile codebases with passing TypeScript no-emit checks; positioned the service accurately as an implemented prototype rather than a production launch.

Enterprise AI Engineering Lab | LOCAL LLMs, AGENTS, RAG & VOICE | 2025–2026

- Built a local-first FastAPI assistant with 15 API endpoints, Ollama chat and embeddings, SQLite memory, cosine-similarity RAG, model-assisted tool planning, a browser UI and workspace-scoped file/command tools.
- Engineered multi-format ingestion for text, HTML, PDF, Word, spreadsheets, SVG and images using OCR/image classification, chunking, embeddings, per-file status and asynchronous job tracking.
- Configured OpenClaw with Ollama primary routing, vLLM fallback, concurrent-subagent capacity, session-memory hooks, web search and a custom tmux shell skill that blocks destructive command patterns pending approval.
- Developed a local voice loop using browser audio capture, faster-whisper, Ollama, optional current-information lookup, HTTPS and Web Speech text-to-speech; also built an OCR rehabilitation schedule converter with reviewed ICS/CSV/JSON export.

Brazil Digital Tax & E-Invoicing Architecture | SUPPORTING SAP INTEGRATION DESIGN | 2026

- Designed three responsibility models for SAP ECC/S/4HANA: retain Brazil localisation and DRC with an external gateway; retain localisation while replacing DRC with an eDocument runtime; or replace both with a full tax engine.
- Recommended a phased path from low-risk gateway validation to reusable eDocument capabilities, reserving full localisation replacement for selected strategic scenarios with an explicit increase in compliance responsibility.
- Defined SAP adapters, XML/PDF generation, digital signatures and certificates, government connectors, status machines, retry/rejection handling, SAP write-back, monitoring, archives, audit trails and OAuth2/mTLS controls.
- Mapped a 15-interface roadmap and ICMS decision architecture using state-pair routing, NCM/CFOP-driven rules, versioned configuration and parallel support for legacy and emerging tax regimes.

TECHNOLOGY & ARCHITECTURE

AI & Agent Systems	Ollama, OpenClaw, local LLMs, RAG, embeddings, model routing, tool planning, memory, OCR, faster-whisper, prompt/context engineering, guardrails, human review
Application Engineering	Python, FastAPI, Pydantic, SQLAlchemy, TypeScript, NestJS, Prisma, Node.js, JavaScript, React Native, Expo, REST APIs
Data & Infrastructure	MariaDB/MySQL, SQLite, relational modelling, Docker, Docker Compose, HTTPS/TLS, Linux, WSL, Windows, Git, cloud and on-premise architecture
Quality Engineering	pytest-style API tests, Playwright, Jest, Supertest, data-driven end-to-end tests, smoke tests, release gates and evidence capture
SAP & Enterprise	SAP ECC, S/4HANA, FI/CO/SD/MM, SAP Basis, SLO, LT, HANA, DRC/eDocument, Brazil localisation, upgrades, carve-outs, consolidations and regulated integration
Leadership	Enterprise architecture, product strategy, P&L, programme delivery, service management, vendor governance, data protection, quality and cross-border teams

PROFESSIONAL EXPERIENCE

AI-Assisted ERP Architect & Builder Independent / EDP — Sydney	2025–Present
• Lead hands-on architecture and development of AI-assisted ERP, local agent systems and enterprise application prototypes from domain model to running software. • Use AI agents across requirements, coding, testing and documentation, while retaining source-grounding, domain validation and expert release control. • Evaluate local LLMs, RAG, memory, tool use and context isolation against concrete enterprise workloads rather than generic demonstrations.	
Business Unit Director msg Global Solutions China — China / International	Sep 2018–2025
• Established and led a business unit with responsibility for P&L, people, skills, project delivery, quality, customer satisfaction and strategic growth. • Built a multidisciplinary team of more than 12 project managers, architects and senior specialists; delivered services to more than 10 satisfied customers over six years with full payment on completed engagements. • Developed partnerships with SAP, Microsoft, IBM, Dell and HP and embedded data protection, SLA governance, continuous improvement and change management into delivery.	
Transformation Director SNP SE — China	Aug 2017–Jun 2018
• Led the build-out of SAP transformation solutions using SNP products and SAP Landscape Transformation; created demo systems and developed team capability in HANA and S/4HANA. • Defined tool-based approaches and service offerings for Suite on HANA/S/4HANA migration, upgrades and technical transformation.	
Principal Solution Architect — SLO Products & Services SAP Australia Pty Ltd — Australia / APJ	Jan 2013–Jun 2017
• Converted complex customer requirements into transformation architectures, scoped programmes, estimates, delivery models and market-oriented service portfolios. • Architected major consolidation, carve-out and transformation programmes for Lenovo, CNPC, BMW China, Sony, Dongfeng Motor and General Motors Shanghai. • Coordinated global teams across countries, time zones, SAP organisations and partners; supported growth of a 20-person SLO-focused delivery capability.	

Principal Technical Consultant | SAP Germany AG / SAP Australia Pty Ltd — Germany / Australia

Sep 2007–Dec 2012

- Led the BHP Billiton 1SAP SLO workstream and reduced planned transformation downtime from 96 to 12 hours — an 87.5% reduction — through a minimised-downtime approach.
- Managed Nokia Siemens Networks’ Chinese company-code split with go-live transformation downtime below 6.5 hours and delivered complex upgrade, Unicode and database-change programmes.

SAP Technical Consultant | SAP SI AG — Germany / International

Jan 2004–Aug 2007

- Designed SAP system landscapes and technical roadmaps; delivered upgrades, migrations, software logistics, change management and global-template rollouts.
- Designed Lenovo’s global strategic ERP platform and long-term transition roadmap and established a software change-management process retained by the client.
- Planned and executed multiple upgrade and rollout projects for Mars/Masterfoods across a global landscape.

Founder & General Manager | EDP Consulting GmbH — Germany

Apr 1998–Dec 2003

- Founded and grew an SAP consulting and software company, leading strategy, finance, operations, staffing, business development and delivery.
- Achieved annual revenue growth of approximately 10–30%, built a seven-person team and developed a stock-analysis software product.
- Delivered SAP development services and supported Masterfoods’ R/2-to-R/3 transition roadmap and global system-landscape design.

EDUCATION

Diplom-Informatiker / Master-equivalent in Information Technology | Technische Universität Darmstadt, Germany

1993–1998

Bachelor of Science — Software Engineering | Jilin University, China

1987–1991

LANGUAGES

Chinese — Native English — Fluent German — Fluent

SELECTED CLIENTS

BHP Billiton, BMW, CNPC, Lenovo, Sony, General Motors Shanghai, Dongfeng Motor, Nokia Siemens Networks, Mars/Masterfoods, Nestlé, Audi, SAIC, Metro and other global and emerging enterprises.