CHANONT WANKAEW

AI Engineer & Multi-Agent Systems Architect

Contact Information

chanont.wa@gmail.com

linkedin.com/in/chanont-wankaew

EXECUTIVE SUMMARY

Accomplished AI engineer with 10+ years of telecommunications systems expertise and proven leadership in multi-agent architecture development. Founded Zynx AI, architecting a production-scale 52-agent ecosystem with sub-100ms latency performance. Combines deep systems engineering background with cutting-edge machine learning implementation, specializing in GPU-optimized pipelines, ethical AI frameworks, and cross-cultural persona development. Demonstrated success in scaling complex distributed systems under resource constraints while maintaining enterprise-grade reliability and compliance standards.

CORE COMPETENCIES

Artificial Intelligence & Machine Learning

- Multi-agent system orchestration and distributed architecture design
- GPU-accelerated computer vision and natural language processing pipelines
- Vector-based memory systems and conversation management (Chroma, FAISS)
- Cross-cultural AI persona development with ethical compliance frameworks
- Large language model integration and prompt optimization workflows

Systems Architecture & Engineering

- Production-scale distributed systems design and deployment
- Containerized application architecture (Docker, Kubernetes concepts)
- Real-time monitoring, alerting, and automated recovery systems
- Database optimization and vector store management
- Cloud infrastructure deployment and management (GCP, Firebase)

Telecommunications & Network Engineering

- RF planning and optimization across 2G/3G/4G/5G technologies
- Network performance analysis and capacity planning
- Large-scale infrastructure integration and merger projects
- Signal processing and network protocol implementation
- Team leadership and cross-functional project coordination

Software Development & DevOps

- Full-stack development: Python (FastAPI), JavaScript/TypeScript, React
- Advanced OCR/ASR pipeline development and optimization
- Automated testing, deployment, and continuous integration practices
- API design and microservices architecture
- Technical documentation and stakeholder communication

PROFESSIONAL EXPERIENCE

Founder & Lead AI Engineer | *Zynx AI*

June 2024 – Present

Multi-Agent System Architecture

- Architected Zynx.Zero orchestration platform managing 52 specialized AI agents with distributed queueing
- Achieved consistent sub-100ms dispatch latency across GPU-intensive workloads on resource-constrained hardware
- Implemented intelligent load balancing and automated failover mechanisms for production reliability

Advanced Document Processing Innovation

- Engineered end-to-end OCR-to-translation pipeline using Tesseract v5, GPT-4 Vision, and custom PDF overlay
- Achieved 24 pages/minute processing speed while preserving complex layouts (tables, forms, signatures)

- Maintained 100% layout fidelity for Thai-English document translation workflows

Intelligent Memory & Compliance Systems

- Developed PDPA-compliant vector memory architecture with UUID tracking and metadata management
- Created "น้องดีจ้า" (Deeja) persona with 8,192-token context windows and role-based access control
- Implemented comprehensive audit trails and automated compliance reporting systems

Production Monitoring & Optimization

- Established real-time health monitoring with distributed pub/sub architecture
- Configured automated vector store compaction, database maintenance, and intelligent alerting
- Optimized GPU memory utilization preventing VRAM overflow through dynamic batching

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Mobile Network RF Planning & Optimization Engineer, AI Project Specialist | *Huawei Technologies (Thailand)*

February 2024 – December 2024

Strategic Network Integration Leadership

- Led RF planning for True-DTAC merger, Thailand's largest telecommunications infrastructure consolidation
- Managed complex multi-technology (2G/3G/4G/5G) deployment scenarios across national coverage areas
- Applied advanced optimization methodologies to streamline network integration processes

AI-Driven Workflow Innovation

- Developed LLM prompt optimization strategies for automated network planning decision-making
- Created AI-enhanced workflow systems reducing manual intervention and improving engineering efficiency
- Integrated machine learning approaches with traditional telecommunications engineering practices

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Mobile Network RF Planning & Optimization Engineer Team Lead | *Metro Global Services*

May 2018 – May 2022

Technical Leadership & Strategic Planning

- Directed 4G network optimization for BMA True Project, managing cross-functional engineering teams
- Advanced to Senior Specialist role at Huawei, leading 4G/5G technical strategy development
- Coordinated complex infrastructure deployments across metropolitan Bangkok coverage areas

Performance Engineering Excellence

- Architected large-scale network optimization strategies improving coverage quality and capacity
- Developed innovative RF planning approaches reducing deployment costs while maximizing efficiency
- Implemented advanced troubleshooting methodologies for dense urban environment challenges

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Senior Mobile Network RF Planning & Optimization Engineer | *Multiple Organizations*

November 2017 – April 2018 | January 2017 – September 2017 | July 2016 – December 2016

Advanced Network Optimization Expertise

- Executed specialized 4G network planning projects with focus on high-performance configurations
- Managed comprehensive 3G/4G multi-technology integration and optimization initiatives
- Applied sophisticated RF engineering principles for complex interference resolution

Technical Innovation & Problem Solving

- Developed integrated solutions enhancing network performance across multiple technology platforms
- Implemented advanced mathematical modeling for coverage prediction and resource optimization
- Contributed to major infrastructure projects supporting Thailand's leading telecommunications operators

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Mobile Network RF Planning & Optimization Engineer | *UbiNS (Thailand) & Elabram Systems*

February 2016 – June 2016 | November 2014 – January 2016

Foundation Engineering Development

- Built core competencies in 3G/4G network planning, optimization, and performance analysis
- Developed expertise in RF propagation principles and network architecture design
- Applied advanced simulation techniques for network performance prediction and resource allocation

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Mobile Network Engineer | *TOT Public Co., Ltd. (Internship)*

January 2014 – October 2014

Academic-Industry Integration

- Completed comprehensive 3G/4G mobile network engineering program
- Gained hands-on experience with network planning tools and optimization procedures
- Contributed to real-world infrastructure projects while building foundational telecommunications expertise

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KEY TECHNICAL ACHIEVEMENTS

Zynx Multi-Agent Ecosystem Development
Complete 52-agent AI system with production-ready modules, comprehensive error handling, and automated recovery mechanisms achieving full system deployability and enterprise-grade reliability.

GPU-Optimized Computer Vision Pipeline
High-performance OCR processing on NVIDIA RTX 4050 with dynamic optimization preventing memory overflow while maintaining processing speed and accuracy across diverse document types.

Real-Time Analytics Dashboard
Comprehensive React-based performance analysis platform featuring persistent filtering, CSV export for 10K+ row datasets, and real-time map visualizations with React-Leaflet integration.

Model Context Protocol Integration
MultiProviderMap abstraction enabling seamless LLM provider routing with intelligent fallback mechanisms and asynchronous request handling using Python 3.10 coroutines.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, TypeScript
AI/ML Frameworks: OpenCV, Tesseract, Whisper, GPT-4 Vision, Chroma, FAISS
Web Technologies: FastAPI, React 18, Next.js, Tailwind CSS
Infrastructure: Docker, Google Cloud Platform, Firebase, PostgreSQL
Telecommunications: RF Planning, Network Optimization, Signal Processing
DevOps: Prometheus-style metrics, Automated deployment, CI/CD pipelines

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EDUCATION

Bachelor of Engineering in Telecommunications Engineering
Specialized coursework in signal processing, network protocols, and systems architecture providing foundational knowledge for distributed systems design and infrastructure development.

Advanced AI & Machine Learning (Self-Directed)
Comprehensive research and development in multi-agent systems, large language model integration, vector search optimization, and production AI deployment methodologies.

LANGUAGES

Thai: Native Proficiency
English: Professional Working Proficiency

STRATEGIC ALIGNMENT

OpenAI & Anthropic Relevance
Demonstrated expertise in responsible AI development, multi-agent orchestration, and human-AI collaboration directly supports advancing artificial general intelligence research. Proven ability to build production-scale AI systems with ethical considerations, cross-cultural sensitivity, and robust safety mechanisms positions meaningful contribution to cutting-edge AI research and development initiatives.

Research & Development Contributions
Experience designing novel AI architectures, optimizing model performance under resource constraints, and developing innovative approaches to AI safety and alignment. Strong foundation in theoretical understanding and practical implementation of advanced AI systems with emphasis on beneficial AI development and scalable infrastructure solutions.

Detailed technical documentation, code samples, and project demonstrations available upon request.