



# Michael Sullivan

Senior Unix/Linux Infrastructure Engineer | Distributed Systems | Python Automation

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[Distributed Thinking Systems LLC](#), [GitHub](#), [LinkedIn](#)

## Profile

Senior Unix/Linux infrastructure engineer with 30+ years building and operating large-scale systems, now focused on distributed systems and AI/ML infrastructure.

Designs and delivers end-to-end AI systems spanning model inference (MLX, llama.cpp, PyTorch), orchestration, data pipelines, and secure runtime environments across local and distributed nodes. Builder of production-grade tools including an Apple App Store application, cross-device compute abstractions, and AI-driven forensic analysis systems.

Brings deep experience across databases (Oracle, PostgreSQL, SQLite, Redis) and distributed architectures to modern AI workflows, enabling composable, scalable systems across heterogeneous environments—from Apple Silicon to multi-node deployments. Known for pragmatic engineering, rapid iteration, and building systems that evolve as fast as the ecosystem.

## Experience

### FOUNDER AND PRINCIPAL, DISTRIBUTED THINKING SYSTEMS LLC, MEMPHIS, TN JUN 2023 - PRESENT

Design, automate, and maintain Linux-based distributed systems that integrate model inference, agent orchestration, and data pipelines into real-world business workflows. Focus on building practical, production-ready infrastructure that operates across local, private cloud, and multi-node environments.

Architected a modular, Unix-inspired platform enabling independently deployable components to communicate via APIs and message buses, supporting scalable, observable, and adaptable system design.

Built supporting operational tooling in Python and shell for orchestration, system lifecycle management, and API-driven integration (similar in function to configuration management systems such as Ansible or Chef).

### CORE PLATFORM AND SYSTEMS

**ConnectomeAI:** Distributed agent framework (FastAPI, NiceGUI, NATS) for composing modular AI systems with pluggable services and cross-host execution.

**LLM-Ops-Kit:** Operational toolkit for managing local and remote LLM infrastructure, including model lifecycle, proxy routing, TTS pipelines, logging, metrics, and observability.

**MLX Harmony:** Apple Silicon-optimized inference layer with OpenAI-compatible APIs and multi-model execution.

**TorchDevice:** Hardware abstraction layer enabling CUDA-based PyTorch workloads to run unmodified on Apple Silicon.

### DATA, WORKFLOW, AND MEMORY SYSTEMS

**LogGPT (App Store):** Safari extension for exporting ChatGPT sessions as structured JSON with privacy-first local processing.

**Extract Chat:** Built transformation tooling for converting unstructured interaction logs into structured formats for RAG and agent memory systems.

**Designed and implemented full AI data pipelines:**  
conversation capture → transformation → chunking → embedding → retrieval and reuse

### SECURITY AND ENVIRONMENT MANAGEMENT

**Secrets-Kit:** Keychain-backed secrets management for secure runtime injection without exposing credentials in environment files.

**VenvUtil:** Environment management toolkit for reproducible AI/ML workflows, including diffing and audit-ability.

### DATA QUALITY, FORENSICS, AND SIGNAL PROCESSING

**UnicodeFix:** Text normalization system for cleaning malformed Unicode in AI datasets and generative AI. Developed AI-assisted analysis workflows for communication patterns, document analysis, and structured data extraction.

### ADDITIONAL WORK

Audio processing and transcription pipelines (Whisper, ElevenLabs, AssemblyAI, iZotope RX, Reaper).

Maintain CI/CD-driven systems and deployment platforms (GitHub Actions, containerized workflows), including experience working with Kubernetes and Rancher environments.

Design privacy-first AI systems with OpenAI-compatible interfaces for local and hybrid deployments.

**UNIX SOLUTIONS ARCHITECT, ECS FEDERAL, MEMPHIS, TN****NOV 2020 - JUN 2023**

Managed the applications release process in an Agile environment from development to production, ensuring quick and efficient delivery with contingency plans.  
Troubleshoot logistics systems and applications issues across all environments for the US Postal Service.  
Provided Unix Systems Support for 900 Unix/Linux servers in development, test, QA, and production.  
Supported operating systems issues arising from applications, including performance tuning and permissions alignment.

**PRINCIPAL, CONSULTING SERVICES, DCS, LLC, NASHVILLE, TN****MAY 2009 - NOV 2020**

Designed and implemented VPN and firewall services using pfSense, Snort, IPSec, and OpenVPN.  
Lead an international team to create an IaaS appliance, managing storage, compute, and control components in a single rack.  
Designed a small/medium-sized business NAS storage appliance with data encryption, compression, and deduplication.  
Developed a backup service for DaaS cloud-based storage.

**MANAGER - PRODUCTION DIV., AOZORA INFORMATION SYSTEMS, TOKYO****FEB 2006 - MAY 2009**

Managed a \$33M budget and prepared reports for senior executives.  
Lead infrastructure consolidation using VMware on Linux (15% YoY cost reduction)  
Co-managed a team of 25 administrators and lead project work.  
Built a CMDB for cataloging datacenter and desktop hardware, and implemented a cost allocation model for IT services.

**PRINCIPAL, CONSULTING SERVICES, DCS, LLC, TOKYO****MAY 2005 - FEB 2006**

Managed the migration of internet services, including software upgrades and system configuration for a data center relocation.  
Created a proprietary online trading system for a private hedge fund in Tokyo.

**ASSOCIATE DIRECTOR - HEAD OF SYSTEMS, KBC SECURITIES JAPAN, TOKYO****MAY 2002 - MAY 2005**

Managed a team of 5 employees and provided daily systems operations support.  
Supported global standardization of systems architecture and infrastructure.  
Managed market data support for Bloomberg and Reuters platforms.

**MANAGER OF DISTRIBUTED UNIX SYSTEMS, CABLEVISION, LONG ISLAND, NY****OCT 2001 - APR 2002**

Managed a team of 15 UNIX Systems Administrators providing 24/7 support for critical operations.  
Oversaw a \$1.5M annual budget and provided mentorship to junior staff.

**PRINCIPAL, CONSULTING SERVICES, DCS, LLC, NEW YORK METROPOLITAN AREA****OCT 1994 - OCT 2001**

Managed teams of 4 to 15 UNIX Systems and Database Administrators.  
Designed and implemented strategic information system architecture for internet commerce applications.  
Developed and managed backup and recovery plans for client data centers.  
Clients: NYNEX, Sun Microsystems, SkyMall.com, Recollections Inc. (Zing), InsureMyTrip.com.

**VICE PRESIDENT/SYSTEMS ARCHITECT, MERRILL LYNCH, NEW YORK, NY****APR 1992 - OCT 1994**

Lead the development and implementation of applications and systems architecture for a financial systems migration project.  
Provided development support and training to a staff of 200 developers.

**AWARDS**

Merrill Lynch President's Award for Excellence - First Quarter 1993

**PROJECT MANAGER, SALOMON BROTHERS INC., NEW YORK, NY****AUG 1987 - APR 1992**

Designed, implemented, and supported a national network infrastructure for investment banking.  
Managed a staff of 12 administrators and developers, and successfully managed the relocation of the investment banking group to a new headquarters.

**AWARDS**

Business Technology Organization Communications Award - Feb 1991  
Business Technology Organization Communications Award - Feb 1990.

## TECHNICAL SKILLS

### AI / MACHINE LEARNING / LLMS

PyTorch, MLX, llama.cpp, Transformers (Hugging Face), Whisper, OpenAI API, GPT, Embeddings, RAG pipelines, Prompt Engineering, Agent-based systems, Tool calling, Function calling, Vector databases, Weights & Biases, Model evaluation, Inference optimization (Apple Silicon / Metal)

### AI TOOLING & PLATFORMS

OpenClaw, Hermes, MLX Audio, ElevenLabs, AssemblyAI, Local LLM stacks, TTS/STT pipelines, Model proxying, OpenAI-compatible APIs, Cursor, Windsurf, Codex

### BACKEND / APIS / FRAMEWORKS

FastAPI, REST APIs, Web APIs, JSON APIs, WebSockets, AsyncIO, Pydantic, Uvicorn, API design, Microservices architecture

### DEVOPS / INFRASTRUCTURE / CI-CD

GitHub Actions, CI/CD pipelines, Automation, Bash scripting, Environment management, Reproducible builds, Deployment pipelines, Observability, Logging, System instrumentation

### DATA ENGINEERING / PROCESSING

Data pipelines, ETL, Text processing, Audio processing, Transcription systems, Data normalization, Chunking strategies, Embedding pipelines, Structured/unstructured data analysis

### SECURITY / PRIVACY

Secrets management (Keychain, environment isolation), Secure runtime environments, Data privacy, Local-first architectures, Credential isolation

### DATABASES / STORAGE

PostgreSQL, SQLite, MySQL, Oracle (8.x-11g), Redis, Dragonfly, Berkeley DB, Vector storage, Graph data structures

### PROGRAMMING / SCRIPTING

Python, Bash, Shell, Perl, C, SQL, JavaScript, Swift, Ruby, YAML, JSON, XML, Markdown

### SYSTEMS / PLATFORMS

Linux, Unix (Solaris/OpenSolaris), macOS, Apple Silicon (ARM), x86, Virtualization (VMware, VirtualBox), Distributed systems, Multi-node architectures

### NETWORKING / INFRASTRUCTURE

TCP/IP, HTTP/S, DNS, SMTP, SNMP, NAT, VPN (IPSec, OpenVPN), SSH, Firewalls, Network security, Load balancing (F5), Cisco networking

### TOOLS / SOFTWARE / SYSTEMS

Git, GitHub, VS Code, Jekyll, Apache, Tomcat, LDAP, NFS, CIFS, ZFS, Veritas, Nmap, Snort, ServiceNow, X11

### MEDIA / FORENSICS / AUDIO

iZotope RX, Reaper DAW, Audio restoration, Signal isolation, Forensic data analysis, Device data extraction (iOS/macOS), Timeline reconstruction

### LEGACY / ENTERPRISE SYSTEMS (ADDITIONAL EXPERIENCE)

MVS (z/OS), TSO, Oracle SQL\*Net, FIX protocol, Bloomberg, Reuters

## EDUCATION

Vanderbilt University, Nashville, TN - PhD work, Neuroscience/Psychiatry 2014 - 2016  
University of Texas, Arlington, TX - BBA, Information Systems

## LANGUAGES

**English:** Native  
**Japanese:** Basic

## LICENSES AND CLEARANCES

USPS Public Trust Clearance - valid through November 2025  
FAA License: Private Pilot, Airplane Single/Multi Engine Land - Instrument Airplane

## PROFESSIONAL INVOLVEMENT

**GitHub Repositories:** Active in maintaining and contributing to various open-source projects on GitHub.

**Memberships:** USENIX, ACM, The Open Group, Apple Developer Program.

**Community Engagement:** Founder and active participant in the New York Systems Administrators group, the Tokyo OpenSolaris Users Group, and the Tokyo Linux Users Group (TLUG).

**Public Advocacy:** Writing on AI ethics, Parental Alienation, and Forensic Communication Analysis.