

Masoud Masoori

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AI Architect | Machine Learning Engineer | Multi-Agent Systems Founder

Professional Summary

AI Architect and ML Engineer specializing in multi-agent orchestration, LLM routing, and voice-enabled AI platforms. Founder of Mas-AI Technology Inc. (part-time Nov 2022–Nov 2025; full-time Nov 2025–Present). Inventor on two patents pending: Sunflower–Honeycomb Memory Architecture (agent memory with ABAC tiers and CMP message bus) and NBMF—Neuro-Bio Matrix Fusion (oscillatory gating and memory-slot fusion for long-context LLMs). Built Daena, an AI-native platform coordinating 60+ agents with model switching, consensus/merge, auditable memory, and real-time voice. End-to-end experience across research, backend, MLOps, security, and product delivery.

Core Competencies

- Languages/ML: Python, SQL, PyTorch, TensorFlow, scikit-learn, Transformers, RL
- NLP/Agents: LangChain, LangGraph, RAG, Whisper, Prompt Engineering, LLM routing, response merging
- Vision/Voice: YOLO, OpenCV, Tesseract, TensorFlow Lite, XTTS (TTS/ASR streaming)
- Backend/Cloud: FastAPI, WebSockets, HTMX, Tailwind, Azure (OpenAI), GCP, AWS, GitHub Actions (CI/CD)
- Data/MLOps: data pipelines, evaluation, feature engineering, experiment tracking, observability
- Robotics/IT: ROS1/ROS2, Gazebo, TurtleSim, Windows/Linux admin, PowerShell, Bash, Power BI
- Network security concepts (OAuth/JWT, RBAC/ABAC, proxies/VPN basics), SRE/observability, Git/Jenkins.

Professional Experience

AI Architect / ML Systems Engineer — Mas-AI Technology Inc.

Richmond Hill, ON | Part-Time: Nov 2022 – Nov 2025 | Full-Time: Nov 2025 – Present

- Designed and shipped Daena (v11): multi-agent “VP” with model switching, consensus/merge, CMP bus, reflexive memory, ABAC governance, and real-time voice.
- Built production backend (FastAPI + WebSockets), live dashboards (HTMX/Tailwind), and CI/CD (GitHub Actions); Azure OpenAI with GCP hybrid.
- Implemented LLM routing across OpenAI, DeepSeek, Qwen, Mistral, Gemini, Yi with guardrails, audits, and explainability.
- Advanced NatureHive NLP (v3–v7) research ($\approx 2.4\times$ token throughput; $\approx 35\%$ lower perplexity vs GPT-2 baseline).
- Delivered investor demos and technical docs; led reliability, security hardening, and incident playbooks.
- Automated security/compliance checks and audit logging around APIs (OAuth/JWT), with dashboards and on-call runbooks.

Computer Technician / Engineer – Ivy Technology, North York, ON | 2022–2025

- Diagnosed/repaired high-volume Dell/HP/Lenovo systems; standardized SOP/QC to cut repeat faults.
- Used Python and Excel for troubleshooting pattern analysis, supported predictive maintenance and documentation.
- Mentored technicians on triage and documentation hygiene in production settings.

IT Support & Admin | QA/QC Analyst | 2016–2022

Torocan Construction Inc. & JRK Co.

- Created internal monitoring tools using **Python** for server uptime, system log parsing, and network stability.
- Managed **end-to-end IT support**, including OS rebuilds, secure backups, and anti-malware automation.
- Wrote QA test plans for IT deployments and implemented real-time status dashboards using **Power BI**.
- Led documentation standardization for internal system upgrades, improving cross-team collaboration.

Railway Systems Consultant – Ahab Co. | 2016–2018

- Supervised NATM and TBM tunneling methods for subway projects

AI/ML Projects

- **Daena AI (v11)- Autonomous AI VP & Agent Company Orchestrator:** : multi-agent orchestration, LLM switching, ABAC, CMP bus, voice; production dashboards, audits, and recovery flows.

- **NatureHive NLP (v3–v7):**
nature-inspired LLM with improved throughput and reduced perplexity vs GPT-2 baseline.
- **Transit Forecaster:**
Regression model ($R^2 = 0.81$) predicting public transit demand using historical and seasonal data, built with Python and Scikit-learn.
- **LingoVids:**
Whisper transcription + XTTS multilingual voice cloning for synchronized dubs.
- **JetAuto Robotics Controller (Seneca AIG):** :
ROS1 controller; square-path motion and obstacle handling; Gazebo + hardware deployment.
- **MedScan – Pill & Prescription Assistant (Seneca Capstone):**
mobile CV+OCR (YOLO, Tesseract, TF-Lite) for pill/prescription scanning with alerts.

PATETS(Pending)

- **Sunflower–Honeycomb Memory Architecture (2025):**

composable agent memory with **reflexive memory hooks**, **ABAC tiers**, and **CMP message bus** for auditability and governance.
- **NBMF – Neuro-Bio Matrix Fusion (2025):**

oscillatory gating + memory-slot fusion over recursive topology to stabilize long-context LLM reasoning.

Education

- Seneca College – Graduate Certificate in Artificial Intelligence (AIG) Graduate
- professional Certificate – Computer Systems Technology: January 2020
- MSc, Civil Engineering-Transportation: 2020
- TOEFL Score: 100 – 2024

Certifications

- **AWS Cloud Practitioner – Cloud & Security (2025)**
- **Introduction to Cybersecurity (Cisco, 2024)**
- **Python for Everybody – University of Michigan (2024)**
- **Introduction to Cybersecurity – (Oct 2024)**
- **Programming for Everybody (Python) – University of Michigan (Dec 2024)**
- **Computer Systems Certificate – Ministry of Labor, Iran (Score: 96/100)**