Masoud Masoori

📍 Richmond Hill, ON | ✉ masoud.masoori@gmail.com | 📞 647-677-1444

🔗 LinkedIn: linkedin.com/in/masoud-masoori | 💻 GitHub: github.com/Masoud-Masoori | 🌐 Portfolio: https://mas-ai.co

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

Professional Summary

Senior AI Architect and ML Engineer who designs AI roadmaps, governance, and production platforms end-to-end. Founder of Mas-AI Technology Inc.; inventor on two patents pending Sunflower–Honeycomb Memory Architecture and NBMF. Built Daena, a governed multi-agent/LLM platform (48+ agents) with model switching, consensus/merge, auditable ABAC memory, and real-time voice. Lead from use-case portfolio & prioritization and KPI/ROI definition to reference architectures (Azure/GCP/AWS), data pipelines and MLOps, security/compliance, and executive-ready delivery playbooks.

Core Competencies

- **AI Strategy & Governance**: AI roadmap & portfolio management; KPI/ROI modeling; Responsible AI (privacy, bias/fairness, compliance); data governance & retention; stakeholder alignment & change management; vendor/platform evaluation
- **Enterprise Architecture**: TOGAF, Zachman, reference architectures, ADRs; integration patterns (event-driven, REST, message bus)
- **Platforms & MLOps**: Azure OpenAI, GCP; pipelines; model registry/monitoring; drift detection; rollback; CI/CD (GitHub Actions; Jenkins familiarity)
- **Data & Backend Engineering**: Python, FastAPI, WebSockets, SQL/NoSQL; observability; cost & performance guardrails
- **NLP/Agents**: Transformers, LangChain, LangGraph, RAG, Whisper; LLM routing and response merging; prompt engineering
- **Vision/Voice**: YOLO, OpenCV, Tesseract, TensorFlow Lite; XTTS (TTS/ASR streaming)
- **Security & SRE:** OAuth/JWT, RBAC/ABAC, audit logging, PIA/TRA readiness; logging/metrics/tracing; on-call runbooks
- **Robotics/IT**: ROS1/ROS2, Gazebo, TurtleSim, Windows/Linux admin, PowerShell, Bash, Power BI

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 + GCP hybrid.
- **AI Strategy & Roadmap**: Drove a division-level AI acceleration plan with near-term pilots and a 12–18-month roadmap; created prioritization criteria balancing value, feasibility, risk, and data readiness.
- **KPI & ROI Frameworks**: Defined success metrics (time-to-value, quality, cost, risk reduction) and ROI models per use case; established reporting cadence for leadership.
- **Governance & Responsible AI**: Stood up Sunflower–Honeycomb memory/governance (ABAC tiers, audit, retention) and Responsible AI controls (privacy, bias, compliance review, human-in-the-loop), including PIA/TRA-ready checklists.
- **Architecture & Integration**: Authored reference architectures for LLM/agent platforms, data pipelines, and integration patterns (event-driven, REST, message bus/CMP); maintained architecture decision records aligning to TOGAF/Zachman concepts.
- **Cloud & MLOps**: Recommended and implemented Azure OpenAI + GCP hybrid, model lifecycle with CI/CD, model registry, monitoring, drift detection, rollback, and cost/latency guardrails.
- **Vendor & Partnerships**: Evaluated AI vendors, APIs, and tooling; built POCs to de-risk adoption and negotiated technical fit vs. roadmap.
- **Executive Communication**: Produced board/EX presentations, one-page strategy maps, and delivery playbooks; facilitated stakeholder alignment across product, data, and security.
- **Implemented LLM routing** across OpenAI, DeepSeek, Qwen, Mistral, Gemini, Yi with guardrails, audits, and explainability.
- **Advanced NatureHive NLP (v3–v7)** research (≈2.4× token throughput; ≈35% lower perplexity vs GPT-2 baseline).
- **Automated security/compliance** checks and audit logging around APIs (OAuth/JWT), with dashboards and on-call runbooks.
- Delivered investor demos and technical docs; led reliability, security hardening, and incident playbooks.

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)*