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Technical Portfolio Analysis Report

1. OVERALL ASSESSMENT

Profile: Senior Full-Stack AI Engineer & Enterprise Architect (Specializing in Agentic Workflows)

This portfolio represents a highly sophisticated, **autonomous software ecosystem** built by a developer who operates at the intersection of **Enterprise Architecture**, **Generative AI**, and **Full-Stack Development**. The developer is not merely a coder but a **system architect** capable of designing end-to-end pipelines that replace human labor with autonomous agents.

Core Philosophy: *"Generate-Analyze-Iterate." The portfolio is dominated by systems that do not just execute code but* think*, critique, and* refine* their own output (e.g., self-correcting story generation, iterative risk assessment calibration, and multi-agent stock analysis).

* **Architecture Style:** Heavily favors **Serverless** (Azure Functions) for backend logic, **Static Web Apps** for frontend delivery, and **Local LLMs** (Ollama, llama.cpp, ComfyUI) for cost-effective, privacy-preserving inference. There is a strong emphasis on **RAG (Retrieval-Augmented Generation)** and **MCP (Model Context Protocol)**.

* **Domain Expertise:** Deep specialization in **Enterprise Architecture Risk Assessment**, **Wealth Management Complexity Analysis**, and **Automated Content Production** (Children's books, Horror novels, Stock analysis).

* **Technical Maturity:** High. The code demonstrates robust patterns including Dependency Injection, Factory Patterns, Circuit Breakers (Polly), Event-Driven Architecture (MassTransit/RabbitMQ), and rigorous security practices (CSRF, Rate Limiting, Input Sanitization).

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2. SKILLS MASTER LIST

Artificial Intelligence & Machine Learning

* **LLM Orchestration:** Azure OpenAI, OpenRouter, Local LLMs (Ollama, llama.cpp, LM Studio), Model Context Protocol (MCP).

* **Generative Models:** Stable Diffusion, FLUX, Wan2.1, Qwen, Gemma, DALL-E 3, ComfyUI Workflow Automation.

* **RAG & Agents:** Retrieval-Augmented Generation, Multi-Agent Systems (StrategicResearcher, DeepResearcher), Parameter Learning/Self-Improvement Loops.

* **NLP & Analysis:** SentenceTransformers, CLIP Embeddings, K-Means Clustering, Semantic Matching, Text-to-Speech (Azure TTS, VibeVoice).

* **Computer Vision:** OpenCV, Image Processing (Pillow), Video Generation (Neural Fluid Abstraction), Object Detection.

☁ Cloud & Serverless Infrastructure

* **Platform:** Microsoft Azure (Functions v4, Static Web Apps, Cognitive Search, Blob Storage, Table Storage, Logic Apps).

* **Architecture:** Event-Driven, Microservices, Serverless, Hybrid Cloud/Local Inference.

* **DevOps:** GitHub Actions, CI/CD Pipelines, Docker, Kubernetes, Azure Resource Manager (ARM), Terraform concepts.

* **Storage:** Cosmos DB, MongoDB, Azure Table Storage, SQLite.

Backend Development

* **Languages:** C# (.NET 6, .NET 8, .NET 9), Python 3.x, Node.js (TypeScript/JavaScript).

* **Frameworks:** ASP.NET Core, FastAPI, Flask, Azure Functions Worker Model (.NET Isolated).

* **Messaging & Events:** MassTransit, RabbitMQ, Azure Service Bus.

* **Data Access:** Entity Framework, MongoDB Driver, OData (Business Central), RESTful APIs.

Frontend Development

* **Technologies:** Vanilla JavaScript (ES6+), HTML5, CSS3, Tailwind CSS.

* **Frameworks:** React.js (Class Components), .NET MAUI (Cross-platform Mobile).

* **State Management:** LocalStorage, SessionStorage, In-memory Maps, Redux-like patterns.

* **UI/UX:** Responsive Design, Server-Sent Events (SSE) for streaming, Interactive Flipbooks.

Security & Compliance

* **Protocols:** OAuth2, MSAL, JWT, CSRF Token Management, Rate Limiting (IP-based).

* **Compliance:** GDPR, HIPAA, PCI-DSS, ISO 31000, NIST, TOGAF, FINMA.

* **Techniques:** Input Sanitization, SQL Injection Prevention, XSS Protection, Honeypots, Tor Network Integration for anonymity.

Domain Specifics

* **Enterprise Architecture:** Risk Assessment, Legacy Modernization (Strangler Fig), Cloud Migration.

* **Wealth Management:** Jurisdictional Complexity, Generational Wealth Analysis, Family Governance.

* **Fintech:** Stock Market Sentiment, Order Book Analysis, Keepa API (Amazon FBA).

* **ERP:** Microsoft Dynamics 365 Business Central (AL Language, OData).

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3. PROJECT SUMMARY

Enterprise Architecture & Risk Assessment (`EA_Assessment`, `Website_PTEK`, `Website_WealthManagement`)

* **Role:** The core "Brain" of the portfolio. These projects implement a **"Risk as a Service"** platform.

* **Function:** Automated analysis of IT projects and Wealth portfolios against 25+ domains and 500+ best practices using LLMs.

* **Key Features:** Evidence-based scoring (0-100), calibration engines to prevent bias, "Non-Advisory" frameworks for compliance, and generation of executive HTML/JSON reports.

* **Tech Stack:** .NET 8 Azure Functions, Python, OpenRouter/Azure OpenAI, TOGAF/ISO standards.

Automated Content Production (`Adult_Story_Generation`, `childrensstories`, `book_webapp`, `Short_Stories`, `Journals`)

* **Role:** End-to-end publishing pipelines for KDP (Kindle Direct Publishing).

* **Function:** Generates stories, illustrations, and journals from concept to PDF. Includes "Quality-Preserving" loops where LLMs critique and rewrite text to remove AI artifacts ("humanization").

* **Key Features:** Character consistency via LoRA/Stable Diffusion, iterative story expansion (64k+ words), Viking-themed journal generation, and flipbook creation.

* **Tech Stack:** Python, ComfyUI, Azure OpenAI, ReportLab, iText7, FFmpeg.

Autonomous Agents & Research (`Agents`, `Agent - Developer`, `Research_Tool`, `stockAnalysis`)

* **Role:** Self-improving AI agents for financial research and code generation.

* **Function:**

* **Stock Analysis:** Extracts "market beliefs" and consensus gaps using multi-agent collaboration (Strategic/Deep Researchers).

* **Code Gen:** Generates C# Azure Functions for Business Central APIs with self-correction loops.

* **Research:** Anonymous web scraping via Tor/DuckDuckGo to gather market data without detection.

* **Tech Stack:** Python, Docker, Playwright, Tor, Multi-Agent LLM orchestration.

E-Commerce & Business Automation (`Website_AdultStories`, `Website_StoryBooks`, `Website_TShirts`, `Amazon_Scrape`)

* **Role:** Serverless e-commerce platforms and market research tools.

* **Function:** Full-stack stores with PayPal integration, dynamic pricing engines, and automated inventory management (Printify/Keepa).

* **Key Features:** Secure order execution via SAS tokens, AI-powered product classification (Gemma), and real-time Amazon FBA opportunity scoring.

* **Tech Stack:** Node.js Azure Functions, Python, PayPal API, Keepa API, Azure Blob Storage.

Healthcare & HR Assistants (`Azure Agent - HR Assistant`, `ESG_Assistant`, `HR_Assistant_Test`)

* **Role:** Secure RAG-based Q&A systems for corporate policy and compliance.

* **Function:** Answers employee questions about benefits/ESG policies with source attribution and jurisdictional filtering (e.g., Jersey vs. UK).

* **Key Features:** Proxy architecture to hide API keys, Logic Apps integration for leave requests, and strict "No-Advice" compliance frameworks.

* **Tech Stack:** .NET 8, Azure Cognitive Search, Azure OpenAI, Static Web Apps.

Video & Media Generation (`animatedposts`, `comfyUi_WANVideo`, `Video_The10Best`)

* **Role:** Automated short-form video production for social media (TikTok/Reels).

* **Function:** Script generation -> Image/Video creation (Flux/Wan2.1) -> Audio synthesis -> FFmpeg assembly.

* **Key Features:** "Chained Video" continuity (last frame of clip A = first frame of clip B), Ken Burns effects, and voice cloning.

* **Tech Stack:** Python, ComfyUI, Azure Speech Services, FFmpeg, MoviePy.

Specialized Data & Science (`btcOrderBook`, `stockImages/DNA_Data`, `Gargantua`)

* **Role:** Quantitative finance, genomic analysis, and physics simulation.

* **Function:**

* **Finance:** ML models for Bitcoin order book trading signals.

* **Genomics:** Analysis of AncestryDNA data (GWAS/ClinVar) for health insights.

* **Physics:** Ray tracing simulations of black holes using Taichi and CUDA.

* **Tech Stack:** PyTorch, FastAI, Python, Taichi, CUDA, Numba.

Mobile Applications (`MAUI_Clinics_net8`, `MAUI_DailyQuoteApp_net9`)

* **Role:** Cross-platform mobile apps for health tracking and daily content.

* **Function:** .NET MAUI apps with local notifications, MVVM architecture, and API integration.

* **Tech Stack:** C#, .NET 8/9, XAML, Azure Functions, Plugin.LocalNotification.

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4. EXPERIENCE REPORT

Technical Expertise & Depth

The developer demonstrates **exceptional depth** in building complex, stateful systems that bridge the gap between raw AI capabilities and production-ready business logic.

* **AI Engineering:** Moves beyond simple API calls to build **agentic workflows**. The ability to implement "self-correcting" loops (e.g., generating a story, scoring it, rewriting it if below threshold) shows a mature understanding of LLM limitations and how to mitigate them.

* **System Design:** Strong proficiency in **Serverless Architecture**. The consistent use of Azure Functions with .NET Isolated Workers and Node.js indicates a preference for scalability and cost-efficiency. The implementation of **Event-Driven Microservices** (MassTransit/RabbitMQ) in the `Microservices` folder proves experience with distributed system patterns.

* **Security & Compliance:** A standout feature is the rigorous attention to security. Every e-commerce and API project includes CSRF protection, IP-based rate limiting, input sanitization, and secure key management. The focus on "Non-Advisory" frameworks for Wealth Management and HR suggests experience in regulated industries (Finance/Healthcare).

Problem-Solving Approach

* **Hybrid Inference:** The developer strategically balances cloud costs with local privacy/performance by mixing Azure OpenAI with local Ollama/llama.cpp instances. This demonstrates cost-conscious engineering.

* **Automation First:** There is a clear bias toward automation. Whether it's scraping Amazon data, generating 365 days of Viking quotes, or assessing enterprise risk, the goal is to remove human intervention from repetitive tasks.

* **Iterative Refinement:** The portfolio is not static; it shows evolution. Projects like `EA_Assessment` and `Short_Stories` feature "Prompt Improver" loops and calibration engines, indicating a mindset of continuous optimization rather than one-off scripts.

Areas of Specialization

1. **Enterprise Architecture & Risk:** Unique niche combining TOGAF/ISO standards with LLMs to automate high-level consulting tasks.

2. **Generative Content Pipelines:** Mastery of the entire creative stack (Text -> Image -> Video -> PDF) for publishing and social media.

3. **Financial Data Science:** Experience in quantitative trading, stock sentiment analysis, and genomic data interpretation.

Conclusion

This portfolio belongs to a **highly autonomous, full-stack AI Engineer** who acts as a "One-Person R&D Lab." They are capable of designing, building, and deploying complex enterprise-grade systems that leverage the latest in Generative AI while maintaining strict adherence to security, compliance, and architectural best practices. The work is production-ready, scalable, and demonstrates a rare ability to translate abstract AI concepts into tangible business value.]
