



Arthur M. Collé

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Profile Summary

Bilingual French-American with a B.S. in Computer Science from University of Maryland, College Park. Proven expertise in distributed AI systems, autonomous agents, and advanced reasoning models. Deep experience in highly collaborative, fast-paced environments, with a unique blend of technical engineering background and leadership in AGI-oriented projects.

Core Competencies

- **Autonomous Systems:** Design and deployment of AGI-lite and distributed autonomous agents.
- **AI/ML Development:** Fine-tuning large models, self-refinement, and reasoning optimization.
- **System Architecture:** Distributed systems, task orchestration, and state management.
- **Programming Languages:** Python, Ruby, Elixir, Rust, Solidity, HTML/CSS/JS.
- **Languages:** Fluent in French and English.

Technical Skills

- **Programming:** Python, Ruby, Elixir, Rust, Solidity, HTML/CSS/JS
- **Frameworks:** FastAPI, Flask, Django, Ruby on Rails, Phoenix, React
- **Data Tools:** Airflow, PostgreSQL, Redis, Elasticsearch, Docker, Kubernetes
- **AI/ML:** Torch, TensorFlow, Pandas, Numpy
- **OS:** macOS, Ubuntu, Debian

Experience

Founding Prompt Engineer, Brainchain.AI

(May 2023 – Dec 2024)

Autonomous Systems Development and AI Engineering

- Designed and deployed distributed autonomous agent systems on Brainchain.cloud, leveraging Neo4j for state management and self-refinement capabilities.
- Fine-tuned Llama 3.1 8B models for complex reasoning tasks.
- Built an Advanced AI Function Calling/GOAP System using Redis Pub/Sub for real-time task orchestration, and proprietary services to perform dynamic schema extrapolation and more.
- Developed a meta-DSL for autonomous agent self-modification and task scheduling.

Software Engineer, Get Well Network (Docent Health)

(May 2021 – Nov 2022)

- Enhanced a Ruby on Rails platform powering patient engagement workflows.
- Led overhaul of notification UI (React) for real-time updates.
- Balanced priorities across product management, analytics, and engineering needs.

Digital Asset Trader, Hypersphere Capital

(Feb 2021 – Apr 2021)

- Built Python systems for quantitative trading and relative value signals.
- Created a real-time portfolio and trade blotter system using Django + Airflow.

Director, Collé Group

(Jan 2020 – Oct 2022)

- Developed cross-asset systematic trading strategies using machine learning and discretionary methods.

Software Engineer, Goldman Sachs

(Jul 2016 – Feb 2018)

- Built APIs for OTC derivative lifecycle events and optimized IR trade booking systems.
- Supported structured products trading in mortgage-backed securities.

Projects

Meta-DSL for Autonomous Agents:

- Designed and deployed a DSL enabling semi-autonomous agents to modify their capabilities dynamically, integrated into Brainchains orchestration system.

Zippy and Orion:

- Built Zippy, an autonomous agent for real-world customs brokerage, supported by Orion for reasoning optimization and dynamic task refinement.

Education

B.S. in Computer Science, University of Maryland, College Park

(Jan 2011 – May 2015)

- Focus Areas: Cryptocurrencies, blockchain systems (Bitcoin, Ethereum), distributed computing.