

Nicholas Gautrey

Principal Engineer

DendriFlow Al Innovator

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Summary

I'm a pragmatic Software Engineer with over thirteen years of experience in building scalable systems across cloud, AI, and automation. I am dedicated to writing clean, modular code and creating efficient solutions that solve real user problems. I excel in collaborative environments that value simplicity and clarity.

Recently, I have focused on architecting secure, data-driven platforms using Python, Go, and AWS. I am also the creator of **DendriFlow**, an open-source Alenhanced automation toolkit that helps developers compose workflows with modular components and YAML configurations. DendriFlow reflects my commitment to developer-first tools that are scalable and accessible.

Key Skills

Python	Go	C#	.NET	AWS
Azure	CI/CD	Terraform	Systems Design	Microservi ces Architectur
Event-	API Design	Serverless	Observabili	Performan
Driven	& RESTful	Architectur	ty &	ce
Architectur	Services	е	Monitoring	Optimizatio
Δ				n
Mentorship	Leadership	Technical	Cross-	Problem
		Strategy	Team	Solving
			Collaborati	
			on	

Communic ation

Experience

O Founder & Lead Architect

DendriFlow (Open-Source Software Venture)

2023 - Present

I developed DendriFlow, an orchestration platform designed for developers. It models cognitive states, learning loops, and emotional context. By combining Al-augmented flow execution, a focus on local data privacy, and a modular design inspired by the human brain, DendriFlow empowers developers to automate workflows, gain insights for reflective learning, and enhance both well-being and performance.

O Principal Engineer

Alchem Technologies

2022 - Present

At Alchem Technologies, I led the end-to-end development of the initial architecture designed for rapid scalability, high productivity, and simplicity, all while maintaining a forward-looking vision. We adopted a monolith-first strategy with plans to incorporate Domain-Driven Design (DDD) to ensure a strong foundation for future growth.

Throughout my tenure, I actively mentored team members on both technical skills—such as robust testing practices—and essential soft skills, consistently setting high standards and fostering a culture of excellence.

Known for my patience, empathy, and supportive approach, I helped developers maximize their potential and contributed to a positive, collaborative team environment.

I introduced solution architecture practices by modeling the target system architecture through Software Architecture Document (SAD) and comprehensive systems design techniques.

Creativity and strategic thinking were central to my role, especially as I

increasingly focused on aligning technical initiatives with company-wide goals.

During the first half of my time, I successfully led multiple projects to completion. In the latter stages, my focus shifted towards people leadership, technical vision, and shaping company strategy—fully embracing the responsibilities expected of a Principal Engineer and technical lead.

O Principal Software Engineer

E-Bate

2019 - 2022

I successfully delivered multiple large-scale features for a cloud-based rebate management platform. I re-architected the core rebate engine to improve scalability, observability, and performance on AWS. This re-architecture resulted in a 40% increase in application speed, a 35% improvement in system scalability, and a 25% reduction in infrastructure costs through optimized resource utilization. As a result of my contributions, I was promoted from Senior to Principal Engineer for leading high-impact client integrations and advocating for clean, testable code.

I actively encouraged individuality, creativity, and an automation-first mindset within the team. This helped foster a culture of excellence and continuous learning by setting high standards, documenting best practices, and driving widespread adoption of these practices.

Senior Software Engineer

Collision Management Systems

2017 - 2019

I developed and maintained telematics data systems using C# and .NET, hosted on Azure, to ensure both reliability and scalability. I built real-time analytics pipelines and REST APIs to track and analyze vehicle behavior, which improved data accuracy and responsiveness. Additionally, I collaborated closely with product teams to shape features based on customer feedback and usage insights, enhancing both user satisfaction and the effectiveness of the system.

O Software Engineer

Intamac

2015 - 2017

Contributed to a cloud-based IoT platform supporting smart home and industrial devices. Built scalable backend APIs, automated workflows, and internal dashboards to streamline operations and improve UX. Gained practical expertise in device communication protocols and telemetry data processing for real-time monitoring and analytics. Promoted scalable, maintainable code and collaborated cross-functionally to align solutions with business needs.



DendriFlow

A modern CLI & Al automation platform for building workflow chains using Flowlets and missions. Combines YAML automation with voice/Al control.



Project Details



DendriFlow

CLI Al AUTOMATION YAML

Overview: DendriFlow is an advanced automation and orchestration platform inspired by the structure of the human brain. It empowers developers to streamline tasks by connecting modular Al-enhanced components—called *Neurons*—that mirror cognitive flow and decision-making patterns.

Key Features:

- Neuron-based orchestration for adaptive, brain-inspired modular workflows
- Voice command interface for hands-free interaction and cognitive accessibility
- YAML-driven configuration for clear, declarative, and reproducible workflows
- Mission-based task system aligning automation with user goals and learning loops

Impact: Actively helping me manage complex tasks, reduce friction, and stay focused — enabling me to excel both technically and cognitively in a demanding engineering environment.