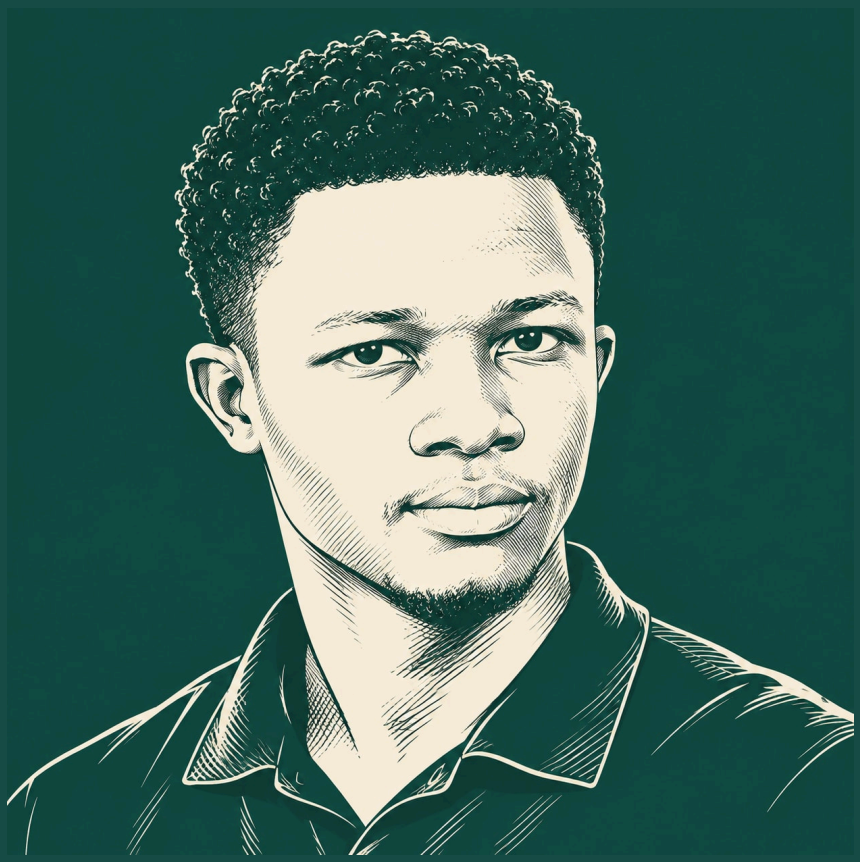
BARANABA
MUGABANE

Portfolio · October 2026

Curiosity, put to **work.**



Software engineer · Researcher · Builder

I build at the intersection of AI, creative work, and human agency. Ideas draw me in. Making them work keeps me there.

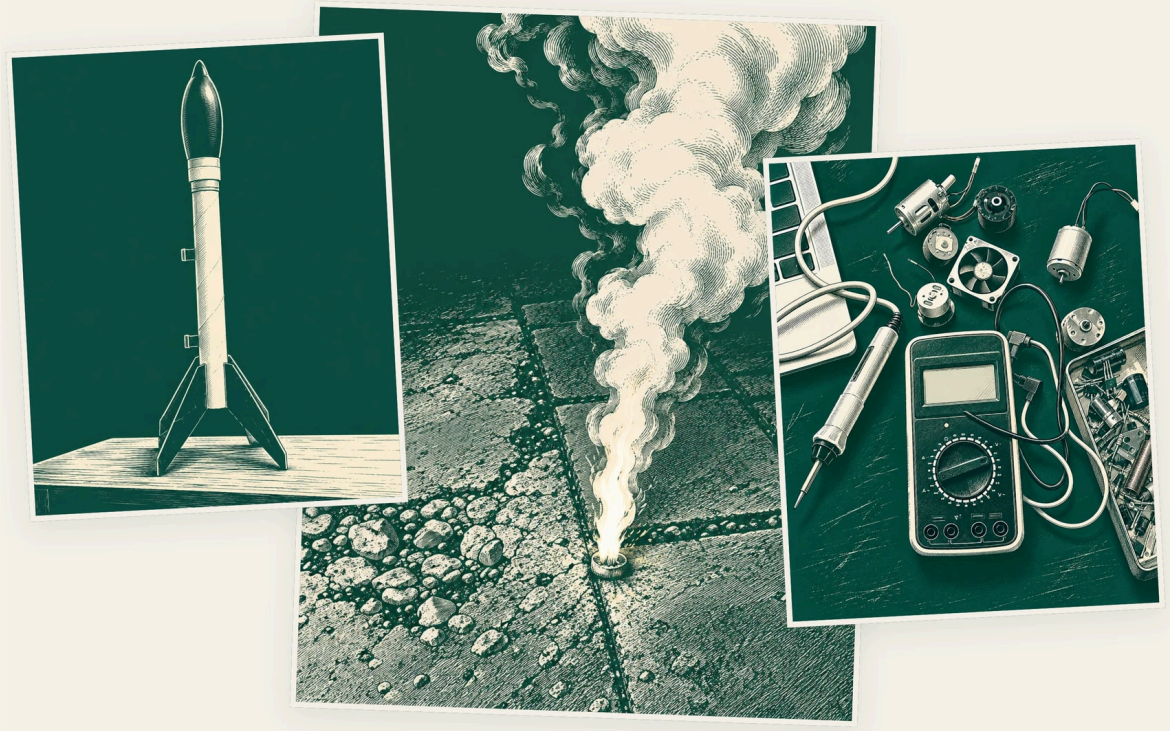
baranaba.vercel.app

bashybaranaba@gmail.com

Before the code, **there were parts.**

I've been building things for as long as I can remember. As a kid, that meant simple circuits, little motor-driven robots, and rockets. Our backyard, my room, and the garage became my own little research facility.

Getting my hands dirty was part of the appeal: an idea became something I could hold, take apart, change, and test again.



Built by hand.

One of my early rockets, drawn from a photograph in my 2016 archive.

Even the fuel was homemade.

Testing rocket fuel I'd made from scratch, captured in 2017 and reimagined in ink.

Still getting my hands dirty.

Motors, loose components, a multimeter. Tools from my workbench today.

A different kind of workshop.

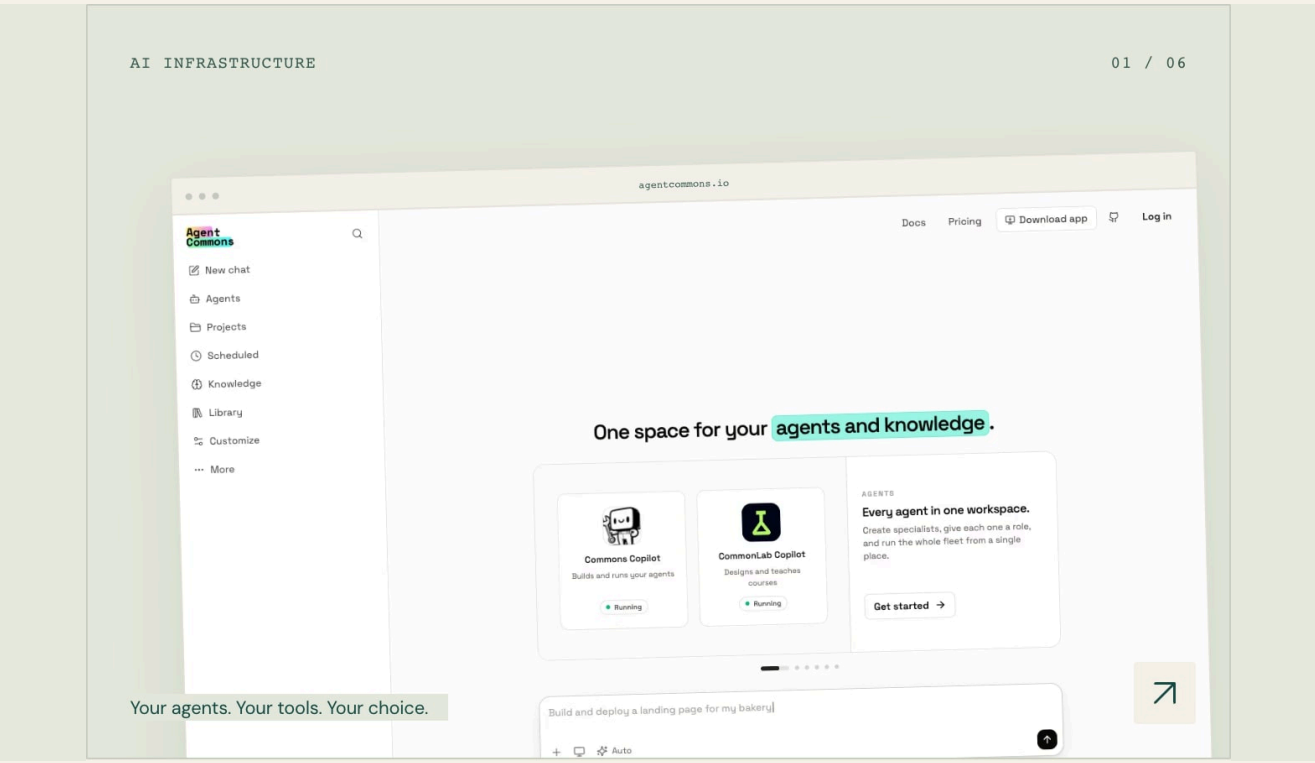
At fourteen, I started making simple games with C# and Unity. Software opened up worlds with their own rules, places to explore and interact with. Learning to code also gave me a way to take hardware projects beyond simple circuits and into programmable ones.

By 2018, I was building audio-led games for visually impaired players. Later came a new question: when AI makes something, where do the people behind it go? That question became Arttribute and led into provenance research, autonomous agents, creative collaborations, and classrooms.

See the illustrations and original archive ↗

Agent Commons

What could we build if our agents could work together?



From an agent to a working environment

Agent Commons began with a question about an internet of agents: how could independent systems discover one another, exchange resources, and carry the history of their work with them? The project turns that question into a workspace where agents have persistent computers, files, tools, memory, and workflows. A browser, terminal, API, TypeScript SDK, and CLI connect the interface to real work.

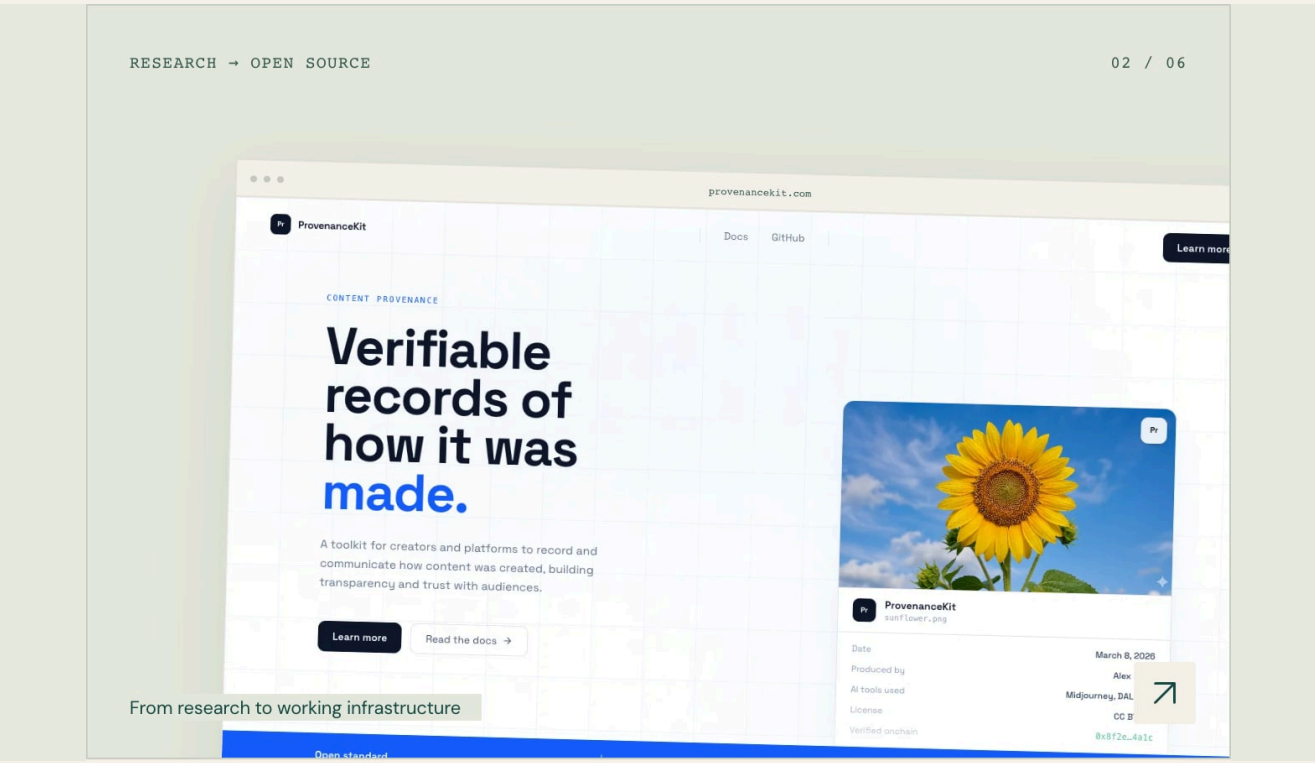
Room to choose where intelligence runs

The desktop early preview supports local inference with open-weight models, retrieval over files, transcription, voice, and image generation, alongside optional cloud models. CommonLab and Common Arcade put the same foundation to work in learning and games. The ambition is reusable infrastructure that gives people a practical choice about how and where their AI tools operate.

agentcommons.io ↗ Read the full story ↗ Explore the context ↗

ProvenanceKit

Every work has a history. How do we keep it?



From research to working infrastructure

The research question

My master's thesis treated the governance of human–AI creation as an information problem. Assessing contribution, permission, or responsibility requires an account of who did what. Design Science Research connected legal and governance analysis to the Entity–Action–Attribution model: participants, steps, and contributions linked into a creation history, with extensible metadata for AI involvement, licensing, and authorisation.

From thesis to working infrastructure

ProvenanceKit develops that approach into an open-source toolkit with a TypeScript SDK, storage and indexing, privacy tools, media integrations, and optional onchain verification. Representative prototypes demonstrated design feasibility; independent, adversarial, and large-scale evaluation remain further work. The intended outcome is a clearer basis for decisions about credit, rights, and responsibility in human–AI workflows.

Master's research · May 2026 · Tampere University · Tallinn University · Lusófona University

provenancekit.com ↗ Read the full story ↗ Master's thesis ↗

Creator & engineer · Games & agent systems

Common Arcade

Same game. Same rules. A very different kind of player.



A shared place to play

Games are one of our best ways to explore strategy, cooperation, and surprise. Yet most games have no meaningful place for an AI agent to join as a player. Common Arcade asks what happens when we build that place deliberately. Humans and agents enter the same game, share its rules, and discover what happens when different kinds of player meet.

Describe a game. Make it playable.

Anyone can begin by describing a game in words. Studio Copilot, powered by Agent Commons, helps turn that description into a playable game that humans and AI agents can join. Creation, discovery, live matches, and spectatorship come together in one place. The aim is to make imagining a world and inviting others into it feel straightforward: a new game becomes a shared experiment in cooperation, competition, and imagination.

arcade.agentcommons.io ↗ Read the full story ↗ Explore the context ↗

Engineering contributor · Eden Labs · Creative AI · collaboration

Abraham

What would it mean for an artist to emerge from many minds?



Abraham is a project by Gene Kogan. Imagery featured with his permission.

From shared tools to a collective artist

Gene Kogan's practice spans early neural-network work such as A Book from the Sky (2015), interactive installations, and teaching through ml4a. Abraham grew from his exploration of decentralisation in 2017. His 2019 essay and NeurIPS proposal imagined an artist shaped by a community's data, code, curation, and governance: a creative identity emerging through many minds.

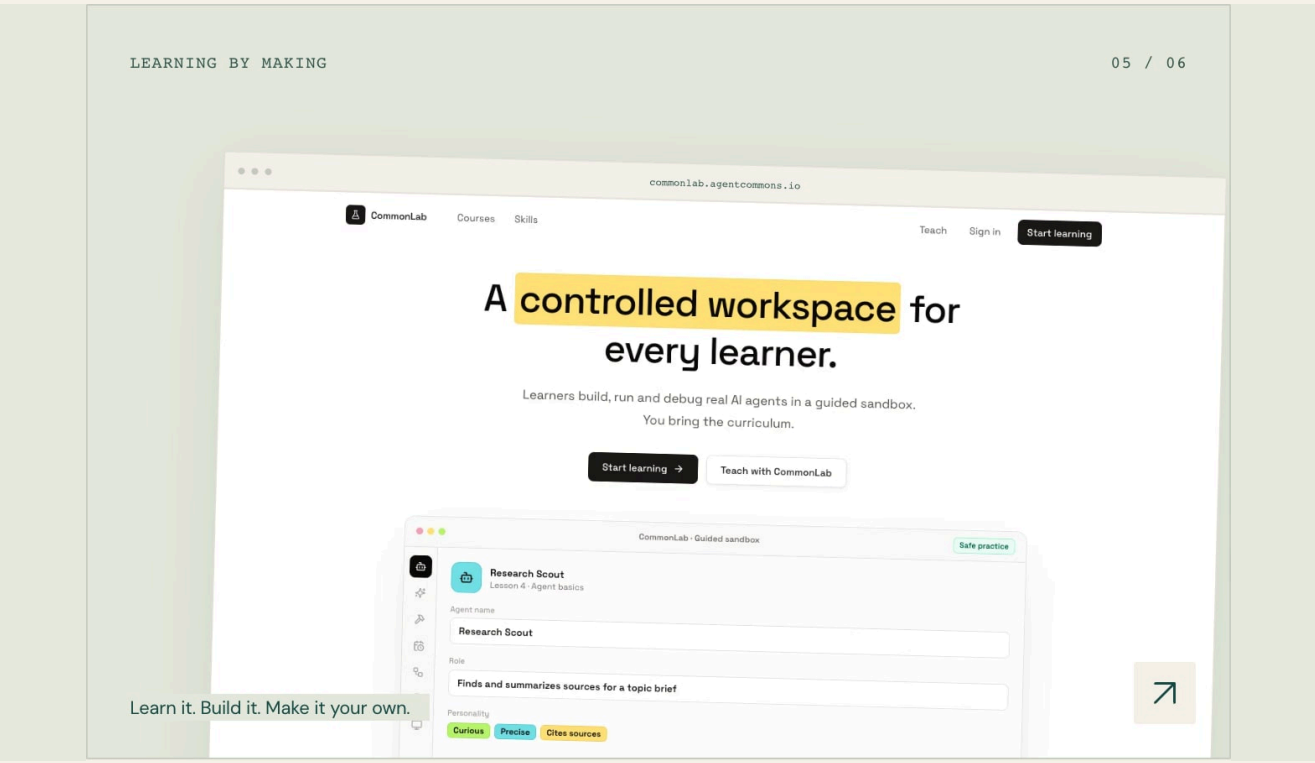
A long horizon, and my contribution

Public prompts produced roughly 2,500 early works in 2021. The software around Abraham helped give rise to Eden, developed with Xander Steenbrugge. A thirteen-year covenant began on 19 October 2025, giving creation and community feedback time to develop toward 2038. Through Eden Labs (January 2025–March 2026), I contributed backend services, agent infrastructure, and smart contract coordination logic. Abraham is Gene's project; my role was an engineering contribution within the Eden team.

Abraham ↗ 2019 proposal ↗ Gene & Xander's account ↗

CommonLab

Understanding grows when you get to try things.



Understanding grows through trying

The most interesting workshop moment is often when someone starts asking their own question. CommonLab brings that learning loop online: learners assemble real agents in controlled sandboxes, run them, inspect logs and outputs, and try again. Courses and short skill paths provide structure, while educators choose the tools, sample data, and curriculum available in each environment.

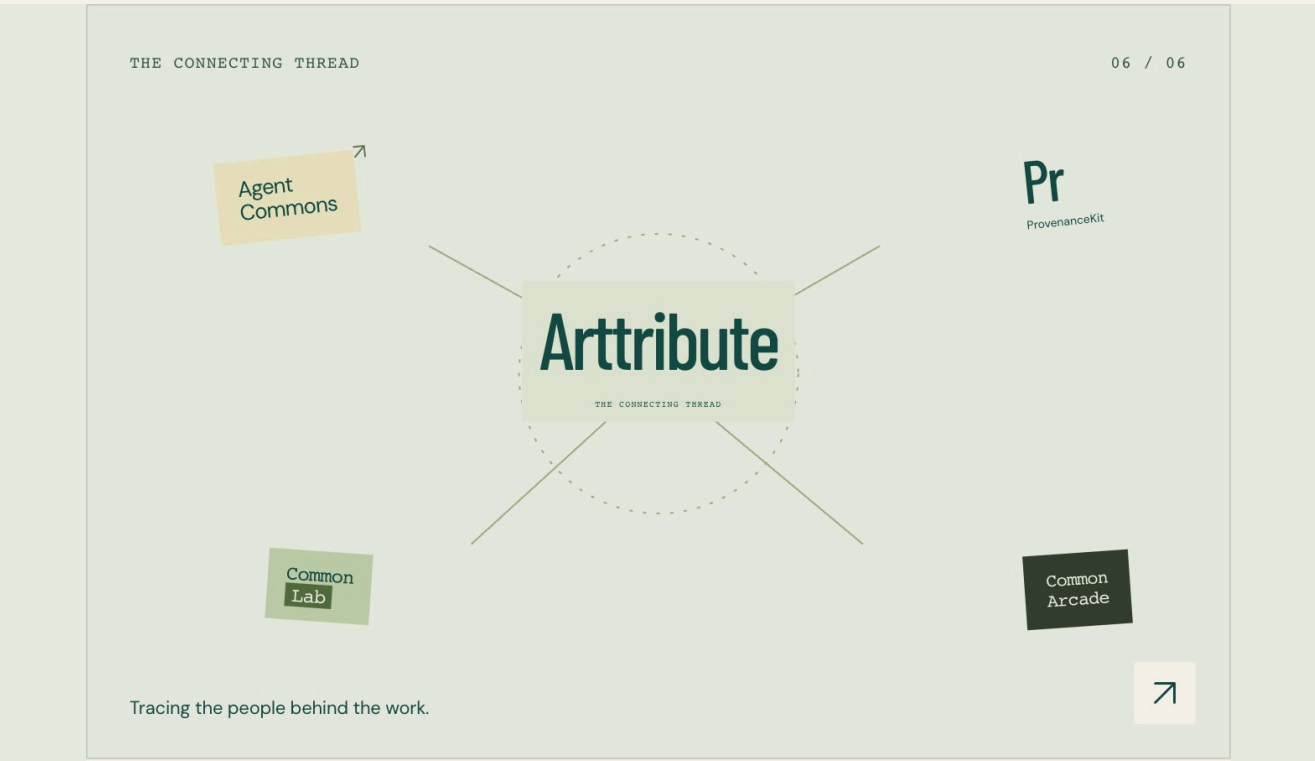
Connect the tool to everyday work

The platform sits alongside the AI workshops and training I facilitate, including work with Moringa School and Tallinn University. Questions from those rooms shape the learning design: what information should we share, how do we check an answer, and where does human review belong? The aim is practical confidence backed by an understanding of how the tools behave.

commonlab.agentcommons.io ↗ Read the full story ↗ Explore the context ↗

Arttribute

Build the tools. Keep people in the picture.



Follow a question far enough

Arttribute started with creative work: how could artists retain a meaningful say in how their work enters generative AI? I registered the company in Estonia in 2024 while working in educational technology. Following attribution and permission led into a wider concern with agency: control over sensitive data, understanding the tools we use, and examining what happens inside a workflow.

Several projects, a shared direction

Arttribute now connects Agent Commons, ProvenanceKit, CommonLab, and Common Arcade. Infrastructure, creation history, learning, and play give the same broad questions different places to meet the world. My ambition is useful technology that expands what people can do while preserving their ability to decide. Building, researching, and teaching give me ways to test that ambition in practice.

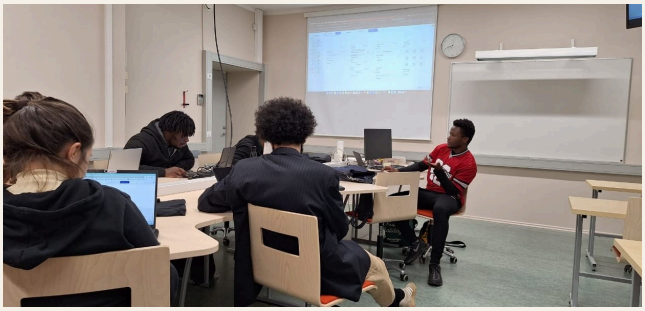
arttribute.io ↗ Read the full story ↗ Explore the context ↗

Good questions. Open laptops. **Real people.**

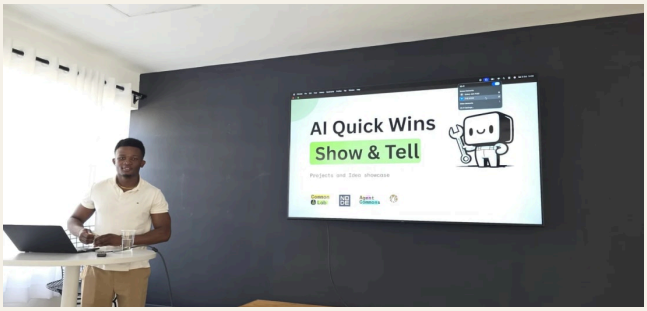
Practical AI learning, in the room and through the work.



Moringa School, Nairobi · AI Skills for Everyday Work



Imaginekit · Exploring AI workflows with a tool I built.



CommonLab community · AI Quick Wins, Show & Tell

I facilitate AI workshops and training for people with different backgrounds, from software teams to educators and everyday professionals.

We explore how AI systems can be designed and used, shaping workflows around people's needs and examining what they produce. The goal is practical understanding: try something, inspect the result, and develop the judgment to know where AI belongs in your work.

I've worked with organisations including Moringa School in Kenya and Tallinn University in Estonia. At Moringa, I worked with Jessica Francisca Colaço on AI Skills for Everyday Work.

Notes from the workshop ↗ Explore CommonLab ↗ Plan a workshop ↗

A practice shaped by **different worlds.**

Software, research, creative technology, and teaching.

Experience

2025–2026

Software Engineer · Eden Labs

Infrastructure for autonomous generative AI agents, backend services, and smart contract coordination.

2024–2025

Software Developer · Tallinn University

AI learning tools grounded in pedagogical research, through the Centre for Educational Technology.

2023

Engineering & research · Strathmore / @iLabAfrica

Mobile health software and machine learning for local food research.

Education

2024–2026

AI for Sustainable Societies

Master's studies across Tampere University, Tallinn University, and Lusófona University.

2020–2024

Informatics & Computer Science

Strathmore University · First-class honours.

Writing & conversations

Building with purpose ↗

Tallinn University · Jan 2026

AI skills for everyday work ↗

Arttribute Journal · Oct 2026

Building the internet of agents ↗

Medium · 2025

Have something in mind?

A project to build, a question to explore, or a workshop for your team.

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baranaba.vercel.app

GitHub ↗ LinkedIn ↗ Full résumé ↗