



FIVE-DAY INTENSIVE WORKSHOP

# command Z: Future Tech Lab

This intensive workshop introduces high school students to Generative AI through hands-on applications, ethical discussions, and real-world problem-solving. Students will develop AI literacy, experiment with AI tools, and build projects that showcase AI's potential in personal and professional contexts.

# MEET YOUR MENTOR — BLAINE FISHER



Dr. Blaine Fisher is a **modern polymath** with expertise spanning multiple disciplines. He holds a **Ph.D. in Geography and Anthropology** from **Louisiana State University**, specializing in Maya Archaeology, along with degrees in Healthcare Management, Liberal Arts, and Geographic Information Systems.

At **Tulane University**, Dr. Fisher plays key roles as the administrator for the Canvas Learning Management System, a faculty support specialist at the Innovative Learning Center, and a professor teaching subjects like Emergency Management and IT. He also serves as a **Remote Sensing and Geospatial Scientist** for Tulane's River Science and Coastal Engineering Department.

His diverse career includes experience as a paramedic and work in environmental health and safety compliance. Beyond academia, he engages in coastal restoration and Maya archaeological excavations, merging science with cultural preservation. He has trained over 2,000 faculty members and led classroom technology advancements.

Dr. Fisher's **expertise spans AI, geospatial science, and risk assessment, demonstrating his interdisciplinary approach and commitment to innovation.**



**Professor of Information Technology, Emergency Management & GIS at Tulane University | Instructional Designer + Technologist, AI Advocate, Geospatial Scientist, Archaeologist**





## Course Intensive Goals

- **Practical Skill Building:** Learn applying AI to tackle real-world problems across various domains and leverage AI to improve critical thinking, communication, research, time management, goal setting, career exploration, and creative problem-solving.
- **Ethical AI Usage:** Master the responsible and ethical use of AI, with a strong emphasis on academic integrity and good AI citizenship.
- **Cultivate Resilience and Adaptability:** Build a mindset for navigating uncertainty and embracing change as part of professional growth.
- **AI-Readiness:** Gain insight into AI's transformative impact on the future of work, prepare for AI-driven careers, and develop AI-enhanced skills, ensuring readiness for the evolving professional landscape
- **Positive AI Impact:** Recognize and harness AI's potential for positive social, ethical, and professional impact.

## Course Learning Objectives

*After completing this intensive, students will be able to ...*

- **Use AI tools ethically and responsibly** to advance educational and professional objectives, emphasizing academic integrity and good AI citizenship.
- **Critically evaluate** AI models, tools, and outputs.
- **Explore real-world applications and limitations of Generative AI** in diverse educational and professional contexts, gaining a comprehensive understanding of its potential benefits and pitfalls.
- **Develop effective strategies for seamless Generative AI integration** into various aspects of personal and professional life, including research, writing, time management, critical thinking, creativity, and career exploration.
- **Create and implement AI-powered strategies for personal or professional projects**, demonstrating the practical use of AI in real-world scenarios.
- **Enhance College and Career Readiness:** Develop a comprehensive understanding of AI's impact on the future of education and work, using cutting-edge career development resources and tools to stay competitive in an AI-driven landscape.

# Day 1. How Machines Think, Prompt Engineering, and Your First Custom Chatbot

**Hours: 9:00 AM - 4:00 PM**

## **9:00 - 10:00 | Group kickoff, the AI Business Challenge**

We start by forming groups and picking a fictional business idea that you will build all week. Think of it like a sandbox startup. It can be serious, goofy, or somewhere in between, as long as you can describe who it helps and what it sells. You will use AI to help you name it, define the audience, and sketch the basic concept.

This group project is not a side quest. It is the spine of the bootcamp. Every day, we will add one more artefact to your business, and you will learn a new AI skill by using it on something real.

## **10:00 - 11:00 | How machines think**

We start by building a clear mental model for what a modern AI system is doing when it responds. We will talk about prediction, patterns, training data, and why the tool can feel like it understands you even when it is generating the next best continuation. That removes the magic fog, which is the first step to using it responsibly.

We will also watch for failure modes that show up in real life, like confident mistakes, missing context, and answers that sound smooth but do not hold up under simple questions. Think of this as installing your internal check engine light. If you can detect weirdness early, you can steer the tool instead of being steered by it.

## **11:00 - 11:15 | Break**

## **11:15 - 12:00 | How machines think, lab and demos**

We take the mental model and test it with quick experiments. You will see how phrasing changes output, how the model reacts to missing details, and how easy it is to nudge it into guessing. This is not meant to scare anyone. It is meant to make the behavior feel predictable.

You will also build a simple truth test routine you can run on any output. It is a short checklist, and it works like a pre-flight inspection. If you do it every time, you will catch most problems before they become a bigger mess.

## **1:00 - 2:15 | Prompt engineering fundamentals**

Now we learn how to talk to AI in a way that gets reliable results. We will cover goal, constraints, audience, tone, format, and examples, which are the pieces that turn a vague request into a clear task. You will also learn how to ask for clarification, how to ask for options, and how to force the output into a shape you can actually use.

We will treat prompting like a skill, not a trick. You will practice iterating in small steps, and you will learn how to diagnose why an output is bad. Most of the time the prompt is under-specified, like giving a GPS an address with no city.

## **2:15 - 2:30 | Break**

## **2:30 - 3:30 | Build a custom chatbot, hands-on studio**

We turn your prompting skills into a tool that has a job. You will design a custom chatbot that follows rules, keeps a consistent tone, and focuses on one purpose, like a study coach, writing helper, planner, or creative assistant. We will talk about what makes a good chatbot, which is not smartness. It is consistency.

You will test your chatbot, notice where it fails, and tighten the instructions until it behaves. This is where the week starts to feel real. You will leave Day 1 with something you built, not just something you heard about.

## **3:30 - 4:00 | Group build hour, chatbot for your business**

Your group uses the last block of the day to create a chatbot for your fictional business. It might be customer support, a product recommender, a brand voice guide, or a social media helper. The point is to build something that has a clear role and predictable behavior.

You will also document how you built it, meaning the rules you wrote, the test prompts you used, and the edits you made after it messed up. That documentation becomes part of your final presentation later. It is the paper trail of your thinking.

# **Day 2. History, Terminology, Memory and Personalization, and a Tour of AI Platforms**

**Hours: 9:00 AM - 4:00 PM**

## **9:00 - 10:00 | History of AI**

We walk through the story of AI from early computing ideas to the modern generative era. You will learn the major milestones, the hype cycles, and the moments when progress stalled, then restarted. That history matters because it helps you see that today's tools are part of a long chain of ideas, not a sudden alien invention.

We also connect the history to current products. When you know what problems researchers were trying to solve, you can understand why certain tools behave the way they do today. It gives you context for what is likely to improve next, and what is likely to stay hard.

## **10:00 - 10:15 | Break**

## **10:15 - 11:00 | AI terminology deep dive**

We define the words you keep hearing, then translate them into plain meaning. Tokens, context window, embeddings, inference, hallucinations, bias, and a few more that show up constantly. This is not a vocabulary quiz. This is the language that lets you compare tools and explain what happened when the output went sideways.

We connect each term to something you can actually observe on screen. If you learn the vocabulary in isolation, it turns into trivia. If you learn it through examples, it turns into skill.

## **11:00 - 11:30 | AI memory and personalization**

We talk about what happens when an AI tool remembers things about you, and how personalization changes the quality of outputs. We will cover what "memory" can mean across different platforms, what data might be stored, and how to decide what you should and should not share. This is where the tool starts to feel less like a vending machine and more like a long-term collaborator.

Then we get practical. You will learn how to customize outputs with style preferences, formatting rules, and reusable instructions. This is how you stop retyping the same requests all week. You set a baseline once, and then you build on it.

## **11:30 - 12:00 | Terminology lab**

You will practice reading short AI outputs and naming what is going on. Is the model lacking context. Is it guessing. Is it blending sources. Is it overgeneralizing. That habit makes you better at fixing problems quickly.

This lab also helps you communicate. If you can describe what went wrong in clear terms, you can improve your prompt, choose a different tool, or decide to verify with sources. That is how you stay in control.

## **12:00 - 1:00 | Lunch**

## **1:00 - 2:00 | Tour of popular AI platforms**

We do a guided tour of major categories of tools, including chat assistants, research tools, image generators, voice tools, video tools, and creation tools for documents and slides. You will learn what each category is good for, what it struggles with, and what to watch for.

We keep this practical. You will see how the same prompt behaves differently across platforms, and why. The goal is to stop choosing tools based on hype and start choosing based on the task.

## **2:00 - 2:15 | Break**

## **2:15 - 3:00 | Platform stations, hands-on exploration**

You will rotate through short stations where you try a few tools with a specific goal, like summarizing a page, generating an image, comparing answers, or testing a voice feature. Each station has a mini checklist, so you are not just clicking around. You are testing.

We will do a quick debrief on what felt useful and what felt risky. Tools are loud. Your judgment has to be louder.

## **3:00 - 4:00 | Group build hour, brand kit and tool stack**

Your group will use AI to lock in the business basics, the name, the audience, the tone, and the main offer. Then you will create a simple brand kit, meaning a logo concept, a color vibe, and a short description you can reuse. This is the foundation that makes your later artifacts feel consistent.

You will also pick your tool stack for the week. You will decide which platform you will use for chat, which for images, which for voice or video experiments, and which for building the final presentation. The goal is to keep you focused, not scattered.

# **Day 3. 9 to 5 AI, Ethical AI in Academics, Research Workflows, and Second Brain Systems**

**Hours: 9:00 AM - 4:00 PM**

## **9:00 - 10:00 | 9 to 5 AI, daily productivity**

We cover practical AI that helps you every day, not just in flashy demos. Note-taking, summarising, planning, study schedules, draft writing, and turning messy thoughts into clear checklists. This is where AI becomes a tool you can use on a Tuesday.

We will also demo a few creation tools that matter in real life, including Gamma for building a clean, fast presentation. You will learn how to give an AI the right inputs so it produces something you can actually edit, not something you have to fight.

## **10:00 - 10:15 | Break**

## **10:15 - 11:15 | Ethical AI use in academics, tied to real work**

We talk about what responsible AI use looks like for schoolwork, especially research and writing. We will separate helpful uses, like brainstorming, outlining, feedback, practice quizzes, and revision support, from questionable uses, like submitting AI-written work as your own thinking.

We also talk about transparency. If you use AI, you should be able to explain how you used it and what you did yourself. That skill protects you. It also keeps trust intact with teachers, teammates, and future employers.

## **11:15 - 12:00 | AI for research, tools and workflow lab**

We learn how AI can support research without turning into a citation factory that invents sources. You will practice finding credible sources, comparing perspectives, summarizing accurately, and turning notes into a clean outline. We will use a workflow that requires verification steps, so confidence does not outrun truth.

This is where you learn to use AI like a research assistant, not like a shortcut machine. If you do it right, you move faster while staying honest. If you do it wrong, you end up with a paragraph that collapses the moment someone asks, where did that come from.

## **12:00 - 1:00 | Lunch**

### **1:00 - 2:15 | AI as a second brain, concepts and demos**

We explore AI as a second brain, meaning a tool that helps you organise, recall, summarise, and reflect using your own materials. We will talk about what makes a second brain work, which is consistency and retrieval. If you cannot find your notes later, they do not exist.

We will use a second brain approach that feels realistic for students. It should help you study, plan, and remember. It should not become a complicated system that you abandon after two days.

### **2:15 - 2:30 | Break**

### **2:30 - 3:00 | Second brain build, quick setup lab**

You will build a small second brain workflow using your own content, like class notes or a short reading. You will practice asking questions that test understanding, not just memory, and you will generate a study guide that matches your material.

We will also talk about what to store, how to label it, and how to retrieve it later. The goal is a system you can actually keep using.

### **3:00 - 4:00 | Group build hour, research brief and business brain**

Your group will create a mini research brief for your business. You will use AI to find market context, competitors, and customer needs, then you will verify sources and write a short summary in your own words. This is where you practice staying human in the loop, even when the tool is fast.

Then you will build a second brain for the business using a tool like NotebookLM. You will upload or collect your business materials so you can query them later. This becomes the knowledge base you will use when you build your website and presentation

# **Day 4. Decision-Making, Deployment Paths, Fine-Tuning, Agents and Automation, and Creative Production**

**Hours: 9:00 AM - 4:00 PM**

## **9:00 - 9:45 | AI-assisted decision-making**

We start with decisions, because that is where AI can help a lot, and also where it can hurt if you trust it blindly. You will learn how to use AI to clarify goals, list options, surface tradeoffs, and spot blind spots. We will also talk about cognitive bias, because AI can either reduce bias or amplify it depending on how you use it. The key idea is simple. AI is a copilot, not the driver. The output is not the right answer. The output is a clearer view of the choice you are making.

## **9:45 - 10:45 | Decision-making workshop, hands-on**

You will run a real decision through an AI-assisted framework. It can be a school choice, a project plan, a time management issue, or a personal goal. The key is that it has to be real enough that the tradeoffs matter.

We will then stress test the AI's suggestions. You will verify assumptions, challenge weak reasoning, and rewrite the decision summary in your own words. That step matters, because your life does not accept the chatbot told me so as a valid excuse.

## **10:45 - 11:00 | Break**

## **11:00 - 11:30 | Open models versus frontier models, and modes of AI deployment**

We break down open-weight and open-source models versus frontier models, and we talk about why that difference matters. Access, capability, safety, cost, and control. You will also learn the practical meaning of private AI in a school or workplace setting.

Then we zoom out to deployment. Fully local, hybrid, and cloud. We will compare the pros and cons of running models locally, using subscriptions, or using cloud platforms like Azure and Google Cloud. The point is to understand tradeoffs, especially privacy and cost, before you pick a path.

## **11:30 - 12:00 | Fine-tuning, a fast and honest overview**

We do a quick, practical overview of what fine-tuning is and what it is not. You will learn the difference between prompting, retrieval with your own documents, and actual fine-tuning. You will also learn why most people do not need fine-tuning for everyday use. We will talk about when it does make sense. If you need consistent behavior at scale, or a specific domain tone, or repeated structured outputs, fine-tuning can help. You will also see the risks, including overfitting, cost, and accidentally baking mistakes into the model's behavior.

## **12:00 - 12:30 | AI agents and tool use, including MCP-style connections**

We break down what an AI agent is in plain language. It is an AI system that can take steps, use tools, and carry out a multi-part task, rather than only answering a question. We will show how this works conceptually, and we will discuss MCP, Model Context Protocol, as one approach for connecting tools to an AI in a structured way.

We will also talk about guardrails. Agents are powerful, which means they can do the wrong thing faster. You will learn how to limit permissions, how to require approval steps, and how to design workflows where humans stay in control.

## **12:30 - 1:30 | Lunch**

## **1:30 - 2:00 | AI automation, workflows with tools like Zapier and Make**

Automation is different from agents. Automation is rule-based, predictable, and usually triggered by events, like a form submission or a calendar update. We will look at tools like Zapier, Make, and IFTTT, and we will build a simple automation that moves information from one place to another.

We will also talk about when automation is a bad idea. If the data is sensitive, if the process is unclear, or if mistakes are expensive, you slow down and add human checkpoints. The goal is helpful automation, not accidental chaos.

## **2:00 - 2:15 | Break**

## **3:15 - 4:00 | Group build hour, creative artifacts for your business**

Your group will use what we did today to produce creative artifacts for your business. That can include a logo set, a short voiceover, a theme song using a tool like Suno, and a short video teaser that explains what your business does. The goal is to make the business feel real.

You will also write a short reflection on how you stayed human in the loop. What decisions did the group make. What did AI suggest. What did you reject. This becomes part of the final story you tell on Day 5.

# Day 5. Vibe Coding Studio and the Capstone Showcase

**Hours: 9:00 AM - 4:00 PM**

## **9:00 - 9:30 | The plan for today, and how to vibe code without losing your mind**

We set expectations for vibe coding. You will learn how to break a build into small parts, how to ask for code changes clearly, and how to debug without spiraling. The goal is not to become a professional developer in a morning. The goal is to build something real with AI support.

We will also connect vibe coding back to the core theme of the week. You still need human judgment. AI can write code fast. It can also write broken code fast. You will learn how to test, verify, and iterate.

## **9:30 - 12:00 | Vibe coding studio, extended build time**

This is the long build block. Your group will create an interactive artifact for the business, usually a simple website or interactive infographic. You will practice describing what you want, reviewing what you get, and improving it in cycles. This is where the skill becomes muscle memory.

We will use multiple products and approaches so you can see different ways to get to the same outcome. The focus is on clarity, iteration, and clean design. If it looks good and works, you are doing it right.

## **12:00 - 1:00 | Lunch**

## **1:00 - 2:00 | Capstone build hour, assemble the final package**

Your group will pull everything together. You will finalize the website or infographic, polish your chatbot, and gather your creative assets. You will also build a clean presentation, often using Gamma, that tells the story of the business and the artifacts you created.

This is also the ethics and decision-making checkpoint. You will prepare a short section explaining how you used AI responsibly, how you verified facts, and where humans made the final calls. That is the part that separates a cool demo from a thoughtful project.

## **2:00 - 3:30 | Capstone showcase, group presentations**

Each group will present their fictional business and walk us through what they built. You will show your artefacts, your chatbot, your creative assets, and your vibe coded build. You will also explain your workflow, meaning what tools you used, what prompts worked, and what broke.

You will specifically call out how you used AI as a second brain, how you used AI to support decisions, and how you stayed human in the loop. The goal is to make your process visible, not just your final product.

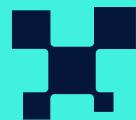
## **3:30 - 4:00 | AI in industry and the future of AI, closing conversation**

We close by connecting what you learned to the real world. We will look at how AI is used across industries and what that means for jobs, ethics, and daily life. You will also learn how to spot hype, how to read AI headlines critically, and how to keep expectations realistic.

Then we end with a forward plan you can actually use. What you will practice next, what tools you will keep using, and what rules you will follow so AI stays helpful and not distracting.



# THANK YOU!



**Lead . Inspire . Solve . Share**

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