



Master AI Tools

Navigate 25+ AI tools across four ecosystems — building a complete, production-ready application from requirements to monitoring.

25+

AI TOOLS

4

ECOSYSTEMS

9

SDLC PHASES

12

REAL FEATURES

THE PROBLEM

The Real Skill Gap Is Not Coding

AI tools for software development are multiplying fast — and every team is adopting them differently. The result: developers who can *use* one tool but can't navigate the ecosystem, can't justify tool choices, and can't see where AI fits in the bigger picture.

The real skill gap isn't coding. It's knowing which AI tool to reach for — and when.

This program closes that gap with hands-on experience across the full SDLC using four major AI ecosystems.

The productivity case is clear: GitHub's 2024 research found developers complete tasks up to **55% faster** with AI coding assistants — and that covers only the development phase. This program covers all nine.

WHAT YOU WILL BE ABLE TO DO

Learning Outcomes

- ✓ Use AI tools at every SDLC phase, not just code completion
- ✓ Generate requirements docs, wireframes, and user stories using AI
- ✓ Generate comprehensive test suites with AI-identified edge cases
- ✓ Auto-generate API documentation portals from code
- ✓ Set up AI-powered production monitoring with anomaly detection
- ✓ Evaluate and select AI tools for any real-world team context
- ✓ Compare four major AI ecosystems with hands-on evidence
- ✓ Build features using terminal AI agents (Claude Code, Gemini CLI)
- ✓ Integrate AI-powered security scans and apply fix guidance
- ✓ Generate CI/CD pipelines from plain English descriptions
- ✓ Distinguish AI tools from rule-based tools and articulate the difference
- ✓ Ship a deployed, production-grade application as a portfolio piece

Build LearnFlow — A Production LMS

You don't practise on contrived exercises. You build **LearnFlow**, a complete Learning Management System, end-to-end — using a different AI ecosystem for each feature. The stack: **Python 3.13 + FastAPI** backend, **React 19 + TypeScript** frontend, PostgreSQL 17, Docker, and GitHub Actions.

Your final deliverable: A deployed, tested, documented application with real authentication, real APIs, real test suites, a CI/CD pipeline, and production monitoring — built using four distinct AI ecosystems. A portfolio project with genuine substance.

What is fixed vs. AI-generated:


Fixed platform (you run this)	AI-generated (you learn to produce this)
Python 3.13 + FastAPI + SQLAlchemy	All feature code, endpoints, models
React 19 + TypeScript + Tailwind CSS 4	Components, pages, API integration
PostgreSQL 17 + JWT auth	Migrations, schemas, auth logic
Docker + GitHub Actions	Dockerfiles, CI/CD YAML, compose configs
Render / Fly.io (hosting)	pytest suites, Playwright E2E, API docs

- ✓ Ship 12 features using AI tools across the full SDLC
- ✓ Hands-on experience with 25+ AI tools
- ✓ Requirements docs, wireframes, and PRD
- ✓ AI-generated test suites (unit + E2E)
- ✓ AI-powered security scans with fix guidance
- ✓ Auto-generated API documentation portal
- ✓ CI/CD pipeline generated from plain English
- ✓ Production monitoring with AI anomaly detection

WHO SHOULD ATTEND


Built for Every Software Engineer

From those writing their first production feature to those making architecture decisions — this program delivers hands-on value at every level.




Software Developers

Level up with AI tools your team is already adopting across every phase of your daily workflow.




Tech Leads & Architects

Evaluate AI tool choices with hands-on evidence. Make informed recommendations to your team.




DevOps Engineers

AI-generated pipelines, Dockerfiles, security scan configs, and monitoring dashboards.




QA Engineers

AI-generated test cases, edge case detection, and E2E automation across four tools.



Engineering Managers

Understand ROI and trade-offs of each AI ecosystem with practical, demonstrated evidence.



Security Engineers

AI-powered SAST, SCA, and vulnerability remediation guidance integrated into CI/CD.

Four Ecosystems. One Project. Every Phase.

The program cycles through four AI tool sets — each used to build complete LearnFlow features from requirements all the way to production monitoring.

A

Claude / Anthropic Ecosystem

Features: User Auth · Lesson Progress · Course Reviews

Claude.ai Claude Code v0 (Vercel) Fathom

Uizard CodeRabbit Qodo Snyk Mintlify

Datadog

Key lab: Use Claude Code as a terminal AI agent to plan, write, test, and document a feature end-to-end from a single plain-English description.

B

GitHub Copilot / Microsoft Ecosystem

Features: Course Mgmt · Analytics · Search & Filter

GitHub Copilot Copilot Chat Copilot PR Review

Figma AI Gamma Fathom CodeRabbit

GH Adv. Security Datadog

Key lab: Build a feature entirely inside VS Code using Copilot completions (2,000/mo + 50 chat messages free, no trial expiry), Copilot Chat for design, and Copilot-generated Actions YAML for CI/CD.

C

Cursor / Open Source AI Ecosystem

Features: Enrollment · Notifications · User Profiles

Cursor Codeium Otter.ai Canny Framr AI

Sourcery Semgrep GitBook Swimm Datadog

Key lab: Use Cursor Composer mode to make multi-file AI edits across backend, frontend, and tests simultaneously — with unlimited Codeium completions.

D

Gemini / Google Ecosystem

Features: Quiz Engine · Certificates · Admin Panel

Gemini CLI Gemini.google.com Codeium v0 (Vercel)

Figma AI Gamma CodeRabbit Qodo Mintlify

Datadog

Key lab: Use Gemini CLI as a terminal agent to generate a complete feature — from test cases to GitHub Actions YAML — entirely from the command line.

Set A — Claude / Anthropic Ecosystem

Features: User Auth (UC-1) · Lesson Progress (UC-5) · Course Reviews (UC-9)

SDLC Phase	AI Tool	What the AI Does	Free Tier
Requirements	Claude.ai	Generate user stories, acceptance criteria, BRD sections	✔ free
Requirements	Fathom	AI transcription + semantic action-item extraction	✔ unlimited
Design	v0 (Vercel)	Generate React UI components from natural language	✔ credits
Design	Uizard	Generate wireframes from text descriptions	✔ free tier
Development	Claude Code	Terminal AI agent — plans, edits, runs, commits	✔ free ¹
Code Review	CodeRabbit	Proactive AI review on every PR with codebase context	✔ OSS repos
Testing	Claude Code	Generate pytest test cases from function signatures	✔ free ¹
Testing	Qodo	AI suggests missing edge cases and test scenarios	✔ free
Security	Snyk	AI-powered SAST, SCA, fix prioritization	✔ free
Documentation	Mintlify	AI semantic search; auto-generates OpenAPI portal	✔ starter
Documentation	Claude Code	Generates docstrings, READMEs from code context	✔ free ¹
CI/CD	Claude Code	Generates GitHub Actions YAML from plain English	✔ free ¹
Monitoring	Datadog	Watchdog (ML anomaly detection) + AI Assistant	✔ 5 hosts

¹ Claude Code shares the Claude.ai daily quota. Spread lab work across days or upgrade to Claude Pro if rate-limited.

Set B — GitHub Copilot / Microsoft Ecosystem

Features: Course Management (UC-2) · Analytics Dashboard (UC-6) · Search (UC-10)

SDLC Phase	AI Tool	What the AI Does	Free Tier
Requirements	Copilot Chat	AI conversation in VS Code for drafting user stories	✔ 50 msg/mo
Requirements	Fathom	AI meeting notes and action-item extraction	✔ unlimited
Requirements	Gamma	AI generates stakeholder-ready slide deck	✔ credits
Design	Uizard	AI wireframe generation from text prompts	✔ free tier
Design	Figma AI	AI content generation, layout suggestions	✔ starter
Development	GitHub Copilot	AI inline completions (2,000/mo + 50 chat — no trial expiry)	✔ free tier
Code Review	CodeRabbit	Proactive AI review on every commit	✔ OSS repos
Testing	GitHub Copilot	AI suggests tests inline while writing functions	✔ free tier
Security	GH Adv. Security	CodeQL semantic analysis + Dependabot AI PRs	✔ public repos
Documentation	GitHub Copilot	AI generates docstrings and inline comments	✔ free tier
CI/CD	GitHub Copilot	AI generates Actions YAML from plain English in chat	✔ free tier
Monitoring	Datadog	Watchdog + AI Assistant	✔ 5 hosts

Set C — Cursor / Open Source AI Ecosystem

Features: Student Enrollment (UC-3) · Notifications (UC-7) · User Profiles (UC-11)

SDLC Phase	AI Tool	What the AI Does	Free Tier
Requirements	Claude.ai	AI user story and BRD generation	✓ free
Requirements	Otter.ai	AI real-time transcription with speaker ID	✓ 300 min/mo
Requirements	Canny	AI-powered feedback summarization	✓ free tier
Design	Uizard	AI wireframe from text or screenshot	✓ free tier
Design	Framer AI	AI website generation from natural language	✓ free tier
Development	Cursor	AI-native IDE — Composer multi-file edits	✓ free ²
Development	Codeium	AI inline completions (unlimited)	✓ unlimited
Code Review	Sourcery	AI refactoring and readability suggestions	✓ free
Code Review	CodeRabbit	AI PR review with codebase-aware comments	✓ OSS repos
Testing	Cursor	AI generates tests inline in Composer mode	✓ free ²
Testing	Qodo	AI suggests edge cases and scenario gaps	✓ free
Security	Semgrep	ML-assisted SAST for vulnerability patterns	✓ open source
Security	Snyk	AI-powered dependency and code scanning	✓ free
Documentation	GitBook	AI search, writing assistance, summaries	✓ personal/OSS
Documentation	Swimm	AI-linked docs that detect code changes	✓ free
CI/CD	Cursor	AI generates CI/CD pipeline configs	✓ free ²
Monitoring	Datadog	AI Watchdog + AI Assistant	✓ 5 hosts

² Cursor free tier: 50 slow premium requests/month. Use Codeium (unlimited) for routine completions; reserve Cursor Composer for multi-file edits.

Set D — Gemini / Google Ecosystem

Features: Quiz Engine (UC-4) · Certificate Generation (UC-8) · Admin Panel (UC-12)

SDLC Phase	AI Tool	What the AI Does	Free Tier
Requirements	Gemini	AI user story and requirements generation	✓ free
Requirements	Fathom	AI meeting notes and action-item extraction	✓ unlimited
Requirements	Gamma	AI generates presentation from raw notes	✓ credits
Design	v0 (Vercel)	AI React component generation	✓ credits
Design	Figma AI	AI layout, content generation, suggestions	✓ starter
Development	Gemini CLI	Terminal AI agent — plans and edits files	✓ free
Development	Codeium	AI inline completions (unlimited)	✓ unlimited
Code Review	CodeRabbit	Proactive AI PR review	✓ OSS repos
Code Review	Qodo	AI review focused on test coverage gaps	✓ free
Testing	Gemini CLI	AI generates test cases from function context	✓ free
Testing	Qodo	AI suggests edge cases and boundary conditions	✓ free
Security	Snyk	AI-powered SAST + SCA with fix guidance	✓ free
Documentation	Mintlify	AI semantic search + OpenAPI portal	✓ starter
Documentation	Gemini CLI	Generates docstrings and README content	✓ free
CI/CD	Gemini CLI	Generates and reviews GitHub Actions YAML	✓ free
Monitoring	Datadog	AI Watchdog + AI Assistant	✓ 5 hosts

PROJECT SCOPE

12 Real Features — One Real Application

UC	Feature	Set	What AI Generates
UC-1	User Registration & Authentication	A	JWT endpoints, bcrypt logic, auth tests
UC-2	Course Creation & Management	B	CRUD APIs, draft/publish workflow, pagination
UC-3	Student Enrollment	C	Enrollment logic, duplicate guard, student list API
UC-4	Quiz & Assessment Engine	D	Scoring logic, MCQ/T-F questions, retake policy
UC-5	Lesson Delivery & Progress Tracking	A	Progress %, sequential lock, completion trigger
UC-6	Analytics Dashboard	B	Aggregation queries, chart data API, role-scoped access
UC-7	Notifications	C	Event-driven notifications, mark-read API, unread count
UC-8	Certificate Generation	D	PDF renderer, UUID code, public verification endpoint
UC-9	Course Reviews & Ratings	A	Rating aggregation, edit window, instructor response
UC-10	Search & Filter	B	Full-text search, multi-filter, relevance sorting
UC-11	User Profile Management	C	Profile PATCH, password change, GDPR delete
UC-12	Admin Panel	D	User management, course approval, CSV export

COVERAGE

Every Phase of the SDLC


















Not just code completion — AI tools at every stage of how software is actually built.

 Requirements Claude.ai · Gemini · Copilot Chat · Fathom · Otter.ai · Gamma · Canny	 UI Design v0 (Vercel) · Uizard · Figma AI · Framer AI	 Development Claude Code · GitHub Copilot · Cursor · Gemini CLI · Codeium
 Code Review CodeRabbit · Copilot PR Review · Sourcery · Qodo	 Testing Claude Code · Copilot · Cursor · Gemini CLI · Qodo	 Security Snyk · Semgrep · GitHub Advanced Security
 Documentation Mintlify · GitBook · Swimm · Claude Code · Gemini CLI	 CI / CD Claude Code · Copilot · Cursor · Gemini CLI	 Monitoring Datadog Watchdog · Datadog AI Assistant <i>Consistent across all sets — the only free-tier AI observability platform</i>

On tool overlap: CodeRabbit, Qodo, and Datadog appear across multiple ecosystems by design — they are the strongest free-tier options for code review, test intelligence, and AI monitoring respectively, and are not tied to any single vendor ecosystem. The program's goal is best-in-class coverage at every phase, not artificial differentiation. Full free-tier limits for every tool are listed in the programme reference guide.

Tool Coverage Matrix

26 AI tools across 4 ecosystems —  = used in that set's hands-on labs.

AI Tool	Set A	Set B	Set C	Set D
Claude Code		—	—	—
GitHub Copilot	—		—	—
Cursor	—	—		—
Gemini CLI	—	—	—	
Codeium	—	—		
Claude.ai		—		—
Gemini.google.com	—	—	—	
Copilot Chat	—		—	—
Fathom			—	
Otter.ai	—	—		—
Gamma	—		—	
v0 (Vercel)		—	—	
Uizard				—
Figma AI	—		—	
Framer AI	—	—		—
CodeRabbit				
Sourcery	—	—		—
Qodo		—		
Snyk		—		
GitHub Adv. Security	—		—	—
Semgrep	—	—		—
Mintlify		—	—	
GitBook	—	—		—
Swimm	—	—		—
Canny	—	—		—
Datadog				

Five Things No Other Program Does

01

Four Ecosystems, Not One

Most programs teach one tool stack. You leave knowing four ecosystems and how to make a reasoned choice between them based on direct experience.

02

Full SDLC, Not Just Coding

Requirements → Design → Development → Review → Testing → Security → Docs → CI/CD → Monitoring. Nine phases. Every use case.

03

Free Tiers for Labs

Every AI tool in labs has a free tier as of Feb 2026. If a vendor removes its free tier, we substitute an alternate free tool. If none exists, a basic paid subscription may be required.

04

Real Software, Not Exercises

LearnFlow is a real application — real database, real auth, real tests, real deployment. Your portfolio project has genuine substance.

05

The Distinction That Matters

AI tools generate. Platform tools execute. You will learn to tell the difference and articulate it clearly to your team. pytest runs tests — Claude Code writes them. GitHub Actions runs pipelines — Copilot generates the YAML. SonarQube applies rules — Snyk applies AI. This distinction makes you a better evaluator of every new tool that appears.

IMPORTANT

Note on AI Tool Free Tiers

Free tiers may change. All AI tools used in this programme have verified free tiers as of February 2026. However, AI tool vendors may modify, reduce, or remove free tiers at any time without notice. **If a vendor stops offering a free tier, the programme will substitute an alternate tool with a free tier where possible.** If no suitable free alternative exists, students must be ready to purchase a basic subscription to continue practising.

Prerequisites: Basic Python or JavaScript. Familiarity with Git and the command line. No prior AI tool experience required. Participants using enterprise-owned data should review their organisation's AI tool usage policy before the programme.

Free Tier Quick Reference

Tool	Free Limit	Restriction
Claude.ai	Generous daily limit	Rate-limited on free plan
Claude Code	Included with Claude.ai	Uses Claude.ai quota — may be tight for 3 UCs
GitHub Copilot	2,000 completions + 50 chat/month	No trial expiry — permanent free tier
Cursor	50 slow premium requests/month	Supplement with Codeium for completions
Gemini CLI	Free via Google account	Rate-limited
Codeium	Unlimited completions	No monthly cap
Fathom	Unlimited AI meeting notes	Storage limits
Otter.ai	300 min/month transcription	Per-month cap
Gamma	~10 AI-generated decks/month	Credit-based
v0 (Vercel)	Daily AI generation credits	Credit-based
Uizard	3 projects free	Project cap
Figma AI	Starter plan (limited AI features)	Feature-gated
Framer AI	Free tier with branding	Branding on free
CodeRabbit	Free for public/OSS repos	OSS only
Qodo	Free individual plan	No team features
Snyk	Free for open source, 200 tests/month	Test-count limit
GH Adv. Security	Free for public repos	Public repos only
Semgrep	Free for open source	OSS rules
Sourcery	Free for open source	OSS only
Mintlify	Starter plan (limited pages)	Page count limit
GitBook	Free for personal/OSS	Public content
Swimm	Free for small teams	Team size limit
Canny	Free tier (limited posts)	Post count limit
Datadog	5 hosts, 1-day retention	Host + retention limit

Format & Structure

This is a fast-paced, immersive program. The goal is not deep mastery of every tool — it is hands-on exposure to each ecosystem and the patterns to evaluate and adopt any AI tool independently. Pre-built checkpoint branches let you stay in sync even if a lab runs long.

FORMAT	Instructor-led with hands-on labs	SESSION	Every Saturday, 7:00 PM – 9:00 PM IST
DELIVERY	Virtual (live, instructor-led)	LAB SETUP	Personal laptop (all tools on free tiers) or GitHub Codespaces — pre-configured, zero local setup
DURATION	16 weeks (one 2-hour session per week)	LANGUAGES	Python 3.13 (backend) · TypeScript / React 19 (frontend)
		TAKEAWAYS	All lab code, docs, pipelines & reference guide

Session Time by Timezone

Region	Timezone	Session Time
India	IST (UTC+5:30)	Saturday 7:00 PM – 9:00 PM
USA (East Coast)	EST (UTC-5)	Saturday 8:30 AM – 10:30 AM
UK / Europe	GMT (UTC+0)	Saturday 1:30 PM – 3:30 PM
UAE / Middle East	GST (UTC+4)	Saturday 5:30 PM – 7:30 PM
Singapore / East Asia	SGT (UTC+8)	Saturday 9:30 PM – 11:30 PM

Ready to Lead with AI in Your Team?

Contact us for batch schedules, corporate training, and custom program design.

Rathinam Trainers & Consultants Private Limited

We train developers, not just tool users.



All AI tools listed have verified free tiers as of February 2026. Free-tier limits vary by tool and may change at any time. If a vendor removes its free tier, we will substitute an alternate free-tier tool; if none exists, a basic paid subscription may be required. Full details in the programme reference guide.