

# AI Automation Systems: Phase 3

DAYS 91-120

MODULE 5

Welcome to Phase 3 of your AI mastery journey, where you'll dive deep into automation and integration platforms. This critical phase transforms theoretical knowledge into practical systems that multiply your productivity. Over the next 30 days, you'll master workflow automation tools, AI-powered automation platforms, and autonomous AI agents that work independently to solve complex problems.

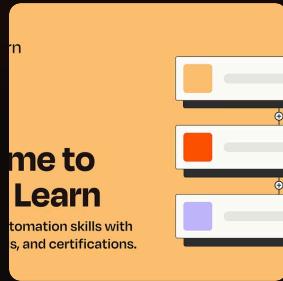


This module introduces you to over 25 cutting-edge tools across three categories: no-code automation platforms that connect your favorite apps, AI-powered automation systems that bring intelligence to repetitive tasks, and autonomous AI agents that can plan and execute multi-step projects. By the end of this phase, you'll be able to design and deploy sophisticated automation systems that handle everything from simple task routing to complex business processes.

The journey continues with business-specific AI tools for sales, marketing, HR, finance, and legal operations, giving you a comprehensive toolkit for any industry challenge. Each tool has been carefully selected for its real-world impact and integration capabilities.

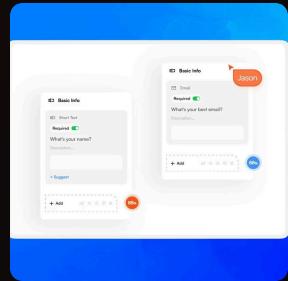
# No-Code Automation Platforms

No-code automation platforms democratize the power of workflow automation, allowing anyone to connect apps and automate processes without writing a single line of code. These tools are the foundation of modern productivity, connecting over 5,000 applications and services to create seamless workflows that save hours of manual work every day.



## Zapier

The industry leader with 5000+ app connections. Free tier available, paid plans from \$20-799/month. Perfect for business process automation and connecting web apps seamlessly.



## Make (Integromat)

Visual workflow builder for complex automations. Starting at \$9-29/month with advanced scenario capabilities. Ideal for users who need sophisticated multi-step workflows.



## n8n

Self-hosted automation with open source flexibility. Free with optional cloud plans. Best for custom automation solutions requiring full control and data privacy.



## IFTTT

Simple personal automations made easy. Free tier plus \$3.99/month premium. Excellent for smart home integration and personal task automation with minimal setup.

# Enterprise Automation Solutions

## Power & Scale

Enterprise platforms bring AI-powered automation to organizations of all sizes, from startups to Fortune 500 companies.

## Microsoft Power Automate

Free + \$15/user/month.  
Desktop and cloud flows for Office automation within the Microsoft ecosystem.

## Pipedream

Developer-focused platform starting at \$19/month. Run code directly in workflows for powerful API integrations.

## Bardeen

Browser automation with AI suggestions. Free + \$15/month for web scraping and repetitive task automation.

These platforms represent the next evolution in automation, combining traditional workflow tools with AI capabilities. Activepieces offers an open-source alternative for cost-effective automation, while Automate.io specializes in marketing automation with multi-step workflows starting at \$9.99/month. Relay focuses on team collaboration with shared workflows at \$15/user/month, making it perfect for coordinating complex team processes across departments.

- ☐ **Day 10 Assignment:** Create 5 automations using different platforms. Build one AI agent to demonstrate your understanding of autonomous systems.

# AI-Powered Automation Revolution

AI-powered automation represents a quantum leap beyond simple workflow tools. These platforms combine Robotic Process Automation (RPA) with artificial intelligence to handle complex tasks that previously required human judgment. From enterprise-scale solutions processing millions of transactions to specialized tools for marketing and customer engagement, AI automation is reshaping how businesses operate.

**1**

## **Robocorp**

Python-based RPA starting free with enterprise plans from \$199+/month. Perfect for developers building custom automation solutions.

**2**

## **UiPath**

Comprehensive RPA suite with AI integration. Free community edition plus enterprise pricing for large-scale business process automation.

**3**

## **Automation Anywhere**

Enterprise RPA with AI platform. Custom pricing for organizations needing large-scale automation across multiple departments.

**4**

## **Workato**

Enterprise integration platform starting at \$10,000+/year for large company integrations and complex workflow orchestration.

Specialized solutions like Tray.io (\$595+/month) handle complex business workflows, while Blueshift (\$1500+/month) brings AI-powered campaigns to marketing teams. Customer.io (\$100+/month) focuses on behavioral messaging for customer communication. Adept, currently on waitlist, promises revolutionary computer control where AI operates computers like humans, representing the cutting edge of automation technology.

# Autonomous AI Agents & Systems



Autonomous AI agents represent the frontier of artificial intelligence, capable of breaking down complex goals into subtasks, executing them independently, and learning from results. Unlike traditional automation that follows predefined rules, these systems can adapt, plan, and make decisions in real-time. They're transforming how we approach everything from research and analysis to project management and software development.

## Open Source Frameworks

- **AutoGPT:** Self-prompting AI for autonomous task completion, ideal for research and analysis projects
- **BabyAGI:** Creates and executes tasks automatically for intelligent project management
- **LangChain:** Framework for building custom AI applications with data awareness
- **LlamaIndex:** Connects large language models to your data for document analysis

## Collaborative Systems

- **CrewAI:** Multiple AI agents working together on complex projects requiring diverse expertise
- **Microsoft AutoGen:** Multi-agent conversations for simulation and testing scenarios
- **SmythOS:** Visual no-code agent builder with free and pro tiers for business automation

These tools enable you to create AI systems that don't just execute commands but understand context, make decisions, and continuously improve their performance. The open-source nature of most frameworks means you can customize them for specific use cases, from customer service to data analysis to creative content generation.

# Business Function AI Tools

 SALES & MARKETING

 HR & RECRUITMENT

AI is revolutionizing every business function, from customer acquisition to talent management. Sales and marketing teams leverage AI for lead generation, content creation, and customer engagement, while HR departments use AI to streamline recruitment, eliminate bias, and improve candidate experience. These specialized tools integrate seamlessly with existing business systems to deliver measurable ROI.



## HubSpot AI

All-in-one marketing platform with AI-powered content generation and analytics. Free tier available, paid plans \$45–3600/month for comprehensive inbound marketing automation.



## Drift

Conversational marketing with AI chatbots for sales. Custom pricing for automated lead generation and qualification that works 24/7.



## Seamless.ai

AI finds accurate contact information for sales prospecting. \$147–497/month to build targeted lead lists with verified emails and phone numbers.



## Salesforce Einstein

CRM with predictive AI scoring and insights. \$25–300/user/month for intelligent sales automation that learns from your data and suggests next best actions.



## HireVue

AI-powered video interview assessment. Custom pricing for candidate screening that reduces time-to-hire and improves quality of hires.



## Textio

Language optimization for bias-free job posts. \$499+/month to write inclusive job descriptions that attract diverse, qualified candidates.

- Day 11 Assignment:** Choose one business function. Implement 3 AI tools for it and document the integration process and results.

# Finance, Legal & Specialized AI

Finance and legal departments are experiencing dramatic transformation through AI adoption. Accounting automation tools process invoices and expenses with near-perfect accuracy, while legal AI assists with research, contract review, and document drafting. These tools don't replace professionals but amplify their capabilities, allowing them to focus on strategic work while AI handles routine tasks.

## Finance & Accounting AI

- **Bill.com:** AP/AR automation with AI invoice processing, \$45–79/user/month for streamlined accounts payable
- **Expensify:** SmartScan expense management at \$5/user/month for automated expense reporting
- **Vic.ai:** Autonomous accounting platform with custom pricing for full accounting automation
- **Zeni:** AI-powered bookkeeping for startups starting at \$549+/month with real-time financial insights
- **Truewind:** Complete AI finance team with custom pricing for comprehensive financial management

## Legal AI Tools

- **Casetext:** AI legal research at \$65–165/user/month for comprehensive case law analysis
- **Harvey:** Enterprise legal AI assistant for document review and legal work automation
- **LawGeex:** AI contract analysis with custom pricing for automated contract management
- **Robin AI:** Contract drafting and editing with AI assistance for faster contract creation
- **DoNotPay:** Consumer rights AI at \$36/3 months for accessible legal help

These specialized tools demonstrate AI's versatility across professional domains. Whether you're managing startup finances with Gridlex (\$15–45/user/month) or conducting legal research with EvenUp's AI demand packages, the right tool can transform your workflow efficiency and accuracy.

# AI System Architecture & Design Patterns

PHASE 4

DAYS 121-180

MODULE 6

Building AI-first systems requires a fundamental shift in thinking. Traditional approaches start with human solutions and digitize them, while AI-first architecture begins with AI capabilities and designs human supervision around them. This paradigm shift enables systems that are more scalable, efficient, and capable of handling complexity that would overwhelm traditional approaches.

1

## Data Pipeline

Collection, cleaning, preprocessing, feature engineering, and intelligent storage and retrieval systems

2

## Model Layer

Selection, training, validation, deployment, and continuous monitoring with automated updating

3

## Interface Layer

User interaction design, API architecture, integration points, and feedback collection mechanisms

4

## Orchestration

Workflow management, error handling, scaling decisions, and cost optimization strategies

Four key design patterns emerge: the Copilot Pattern where AI assists humans (like GitHub Copilot), the Autopilot Pattern for autonomous operation (self-driving cars), the Ensemble Pattern combining multiple models for high accuracy (fraud detection), and Human-in-the-loop for high-stakes decisions (medical diagnosis). A successful e-commerce AI system might layer these patterns: chatbots handle 70% of queries, email AI processes orders autonomously, voice AI escalates complex issues to humans, and analytics AI predicts problems before they occur, resulting in 80% fewer support tickets and 40% cost reduction.

- Day 12 Assignment:** Design an AI system for a real-world problem. Document the complete architecture with all four component layers.

# AI Career Paths for IIT Students

The AI revolution is creating unprecedented career opportunities for IIT graduates, with roles spanning research, engineering, product management, and architecture. Indian tech companies and global giants are competing for AI talent, offering packages ranging from ₹25–90 LPA for top positions. Success requires a combination of strong fundamentals, substantial projects, competition experience, and excellent communication skills.

₹35-...

## AI Research Scientist

PhD preferred. Advanced ML and research methodology for Google Research, Microsoft Research positions.

₹25-...

## ML Engineer

B.Tech/M.Tech. ML algorithms, deployment, MLOps. High demand across all tech companies.

₹20-...

## Data Scientist

Statistics, ML, data analysis. Very high demand in e-commerce and fintech sectors.

₹30-...

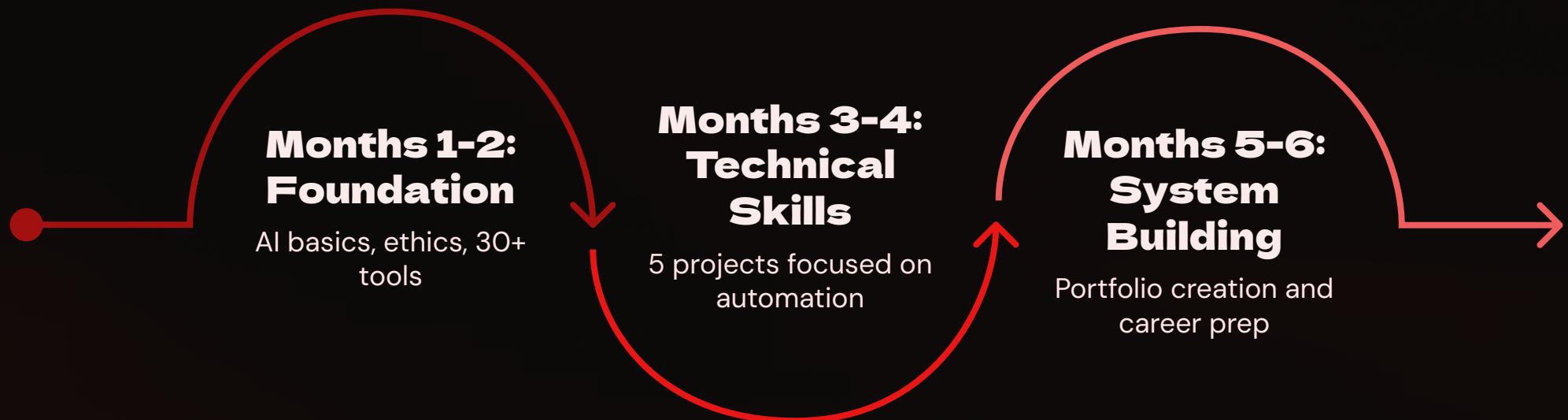
## AI Solutions Architect

System design and AI integration expertise for cloud providers like AWS and Azure.

Portfolio preparation is critical: maintain 3–5 substantial AI projects on GitHub with clean documentation, participate in Kaggle competitions and hackathons, contribute to open-source AI projects, and publish research papers when possible. Interview preparation should cover LeetCode coding challenges, system design, deep ML concepts, real-world case studies, and the ability to explain complex concepts simply. Four compelling project ideas include healthcare AI for early disease detection using TensorFlow and medical datasets, agricultural AI with mobile apps for crop disease identification, educational AI creating personalized learning experiences, and environmental AI analyzing satellite data for pollution monitoring.

- **Day 14 Assignment:** Plan 3 AI projects for your portfolio. Start your first project immediately to build momentum.

# Your 180-Day AI Mastery Journey



This comprehensive program transforms you from AI novice to AI architect in just six months. Month 1-2 builds your foundation with AI basics, ethics, and mastery of 30+ tools across text, image, video, and audio. Month 3-4 develops technical skills through coding, data science, automation, and business tools, culminating in 5 completed projects and automated workflows. Month 5-6 focuses on system building and career preparation, including AI system design, integration strategies, portfolio completion, and placement preparation.

## Success Metrics

**Tool Mastery:** Progress from 30 tools at Week 4 to 150+ tools by Week 24

**Projects:** Complete 5 small projects by Month 2, 10 medium projects by Month 4, and 3 large projects by Month 6

**Automation:** Build 20 automations by Month 2, scaling to 100+ by Month 6

## Career Outcomes

**IIT Placements:** Target packages of ₹25-70 LPA at top tech firms in AI/ML positions

**Entrepreneurship:** Build startups generating ₹1-10 CR/year with seed to Series A funding

**Freelancing:** Earn ₹5-20 LPA working on interesting AI projects for global clients

Your weekly schedule balances learning and practice: Mondays for exploring new tools (2 hours), Tuesdays for project work (3 hours), Wednesdays for building automations (2 hours), Thursdays for studying AI concepts (2 hours), Fridays for portfolio development (3 hours), and weekends for completing projects and reviewing progress. Certification requires a tool mastery portfolio with 100+ tools documented, 50+ automation workflows, and 20+ integration projects; four substantial AI system projects; knowledge assessment through written and practical exams; and community contribution by helping 10+ beginners learn AI.



### Start Today

Set up your learning environment and commit to the 180-day journey



### Track Progress

Create your tool tracking spreadsheet and define clear 6-month goals



### Join Community

Connect with fellow learners for support, collaboration, and networking

Remember: In the AI era, the most valuable skill is knowing which AI to use when. This course doesn't just teach AI tools—it teaches AI thinking. Your AI future starts with your first AI integration. Traditional professionals learn skills and apply them; AI-first professionals learn to leverage AI and multiply their impact exponentially. Start building your AI toolbox today.