AI Automation in Software Development

Transforming the Software Lifecycle with Artificial Intelligence

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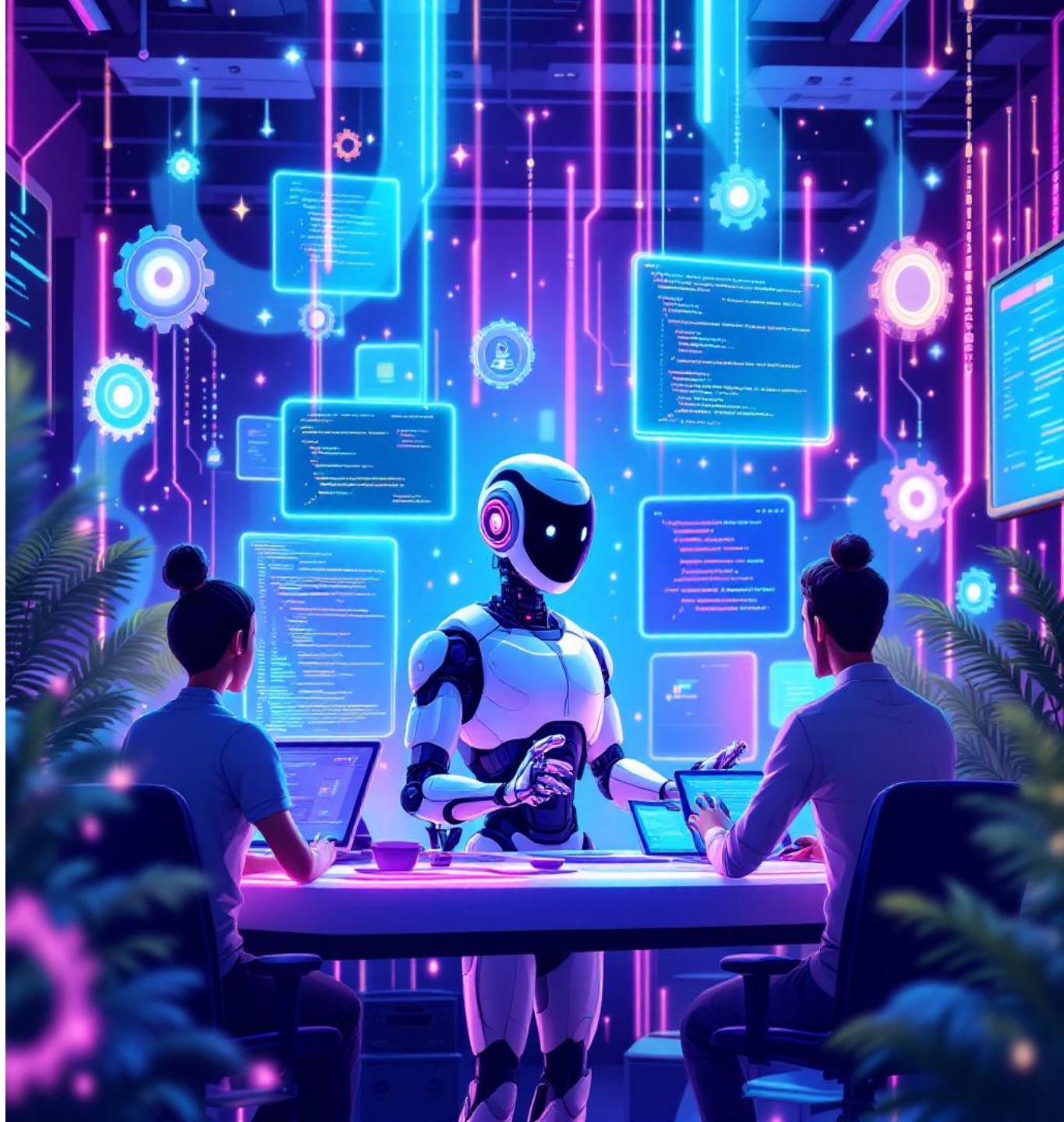
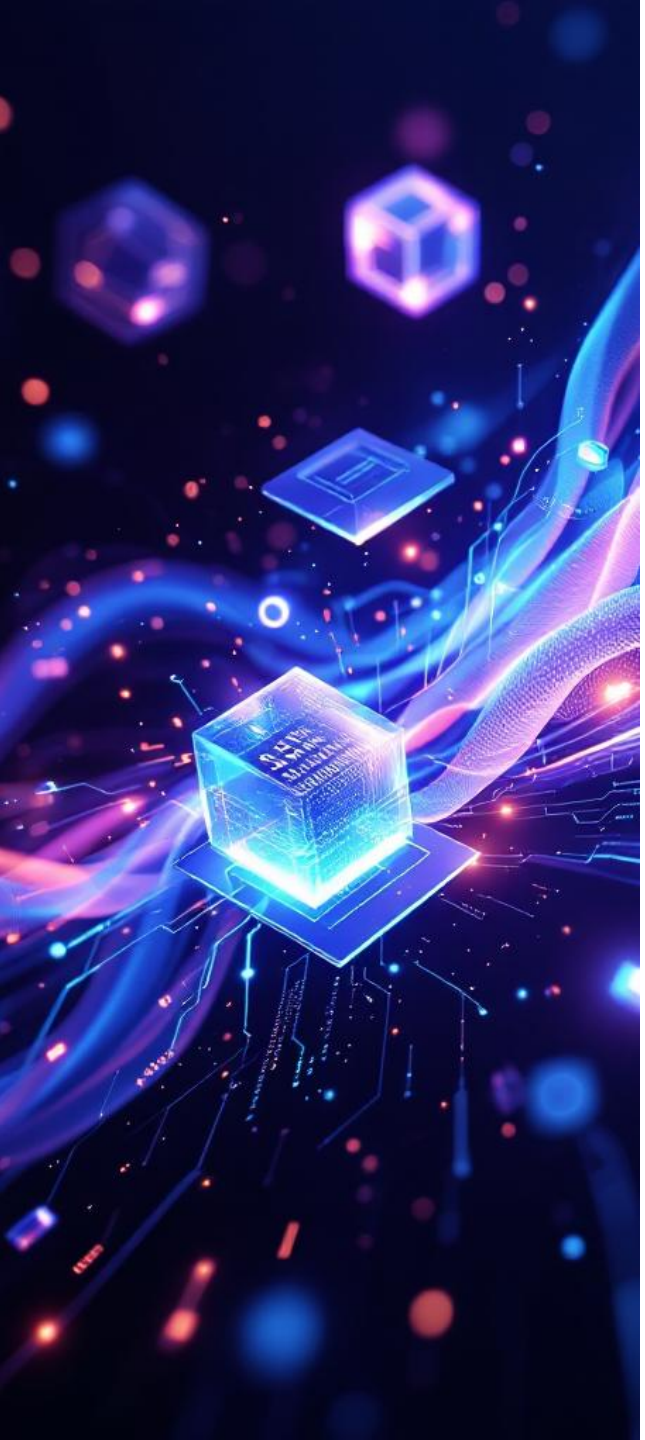




Topics We Will Cover

- What is AI Automation in Software Development?
- The Software Development Lifecycle
- AI in Planning & Requirements
- AI in Design
- AI in Code Generation
- AI in Testing & Quality Assurance
- AI in Deployment & Maintenance
- AI Productivity and Adoption Across the SDLC
- Conclusion & Future Outlook

What is AI Automation in Software Development?

Automation

- Software Tasks

Capabilities

- Code Generation
- Bug Detection
- Project Management
- Code Review

Benefits

- Faster delivery
- Productivity
- Fewer errors
- Efficiency

Collaboration

- Human + AI Augmentation
- Not replacement

The Software Development Lifecycle

Planning

- Objectives
- Scope
- Feasibility

Requirements

- Gather
- Document
- Validate

Design

- Architecture
- UX/UI
- Specification

Implementation

- Coding
- Integration
- Documentation

Testing

- Validation
- Bug Fixing
- Quality

Deployment

- Release
- Training
- Monitoring

Maintenance

- Support
- Updates
- Optimization

AI in Planning & Requirements

Automated Requirements Extraction

- Copilot4DevOps
- IBM

Duplicate Detection & Consistency

- Aqua ALM
- DeDupeD

Document Analysis & Summarization

- Google Docs AI
- Notion AI

Impact & Risk Assessment

- LogikManager
- Resolver

AI in Design

AI-generated architecture

Auto UI mockups

Design suggestions from user data

Wireframing/prototyping

Consistency and usability

AI in Code Generation

AI Code Completion	Code Generation	Bug Detection
Predictive typing	Natural language prompts	Real-time detection
Context-aware suggestions	Code snippets	Security scanning
Syntax error reduction	Boilerplate automation	Code quality checks
Productivity boost	Fast prototyping	Fix suggestions
GitHub	OpenAI	snyk
GitHub Copilot	OpenAI Codex	DeepCode (Snyk)

AI in Testing & Quality Assurance

Testim

Test generation

- NLP-based test creation
- Auto-generated scenarios
- Edge case coverage

mabl

Mabl

Automated Execution

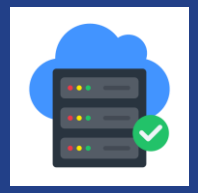
- CI/CD integration
- Continuous testing
- Parallel execution

snyk

DeepCode (Snyk)

Bug Prediction

- ML-based pattern analysis
- Risk scoring
- Code history



AI in Deployment & Maintenance

Automated Deployment

- AI-driven pipelines
- Continous delivery (CD)
- Auto rollback

AI Monitoring & Alerts

- Real-time anomaly detection
- Performance metrics tracking
- Smart alert systems

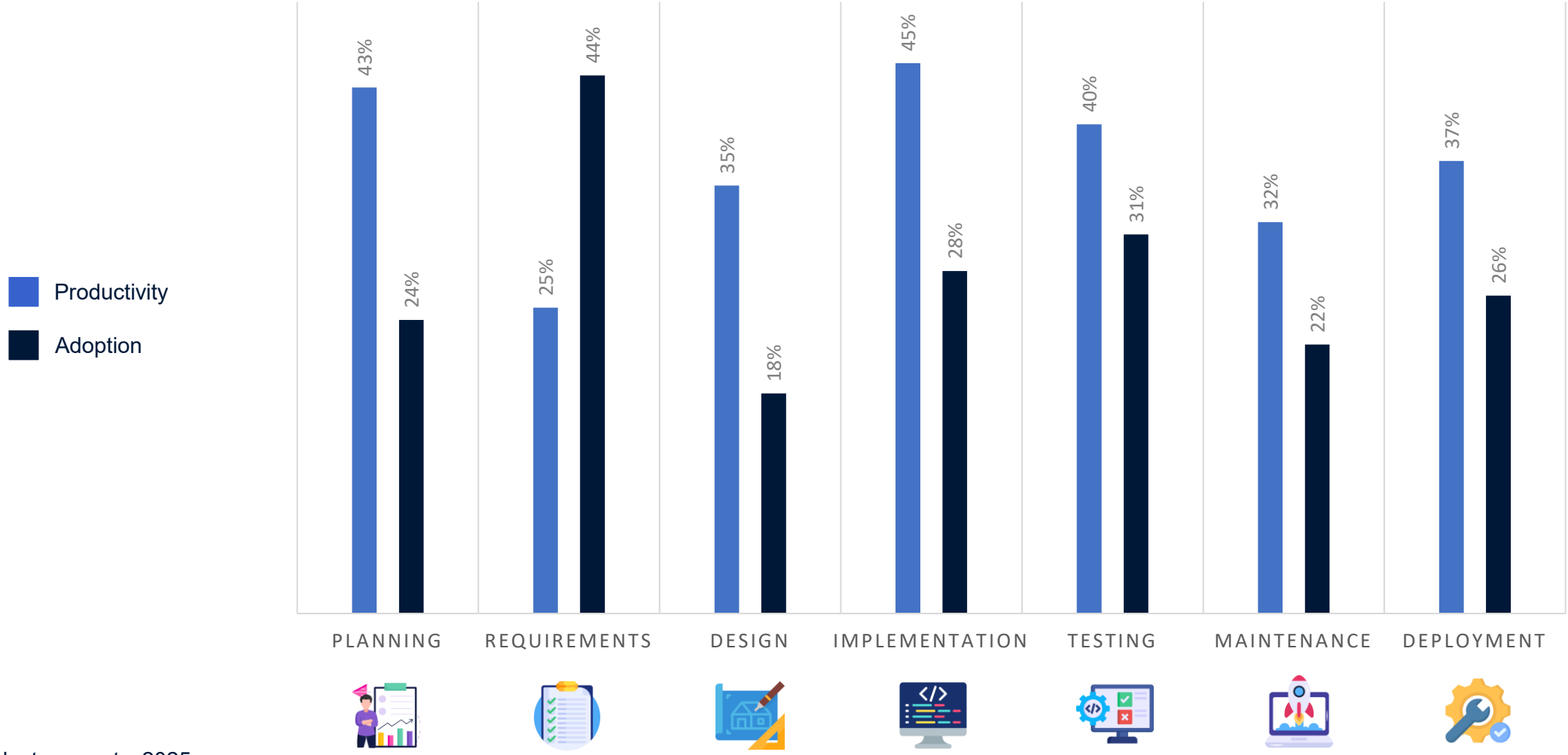
Predictive Maintenance

- Failure forecasting
- Resource usages analysis
- Downtime prevention

Self-Healing

- Auto-recovery
- AI-triggered fixes
- Automated Error correction

AI Productivity and Adoption Across the SDLC



Data: Industry reports, 2025

Conclusion and future outlook

- AL reshapes development
- Productivity up in all phases
- Code generation leads gains
- Testing more efficient
- Adoption increasing

- Innovation continues
- New challenges arise
- Collaboration matters
- Quality improves
- impact differs by phase

Thank You for Your Time:
I appreciate your attention and that concludes my presentation.

Any Questions :-)

Source