



Open Source Development

Learn how to effectively contribute to open source projects

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Course Overview

Learn how to effectively contribute to open source projects, understand licensing, community guidelines, version control workflows, and collaborative development practices.

This 8-week course provides a comprehensive introduction to open source development, giving you the skills and knowledge needed to navigate complex open source projects, make meaningful contributions, and potentially maintain your own open source initiatives.

Next Cohort

- Start Date: November 1st, 2026
- Format: Available in instructor-led online, self-paced, and in-person formats
- Prerequisites: Basic programming knowledge, familiarity with command line interfaces

Course Curriculum

Week 1: Introduction to Open Source

- What is open source software?
- History and philosophy of open source
- Benefits and challenges of open source development
- Key open source projects and their impact
- Setting up your development environment



Week 2: Git and Version Control Fundamentals

- Introduction to Git and distributed version control
- Basic Git commands and workflows
- Repository management
- Branches, commits, and pull requests
- Git best practices

Week 3: Open Source Licensing and Legal Aspects

- Understanding open source licenses
- Copyleft vs permissive licenses
- License compatibility
- Contributing agreements
- Legal considerations for contributors and maintainers

Week 4: GitHub and Collaborative Workflows

- GitHub platform deep dive
- Issues, pull requests, and code reviews
- GitHub Actions and CI/CD integration
- Project management with GitHub
- Alternative platforms (GitLab, Bitbucket)

Week 5: Contributing to Existing Projects

- Finding projects to contribute to
- Understanding project guidelines and conventions
- Reading and navigating unfamiliar codebases
- Creating effective pull requests
- Working with maintainers and the community

Week 6: Documentation and Community

- Writing effective documentation
- README files and project wikis
- API documentation
- Community building and management
- Codes of conduct and inclusive communities

Week 7: Continuous Integration and Testing

- CI/CD in open source projects
- Writing effective tests
- Test-driven development
- Automated testing frameworks
- Quality assurance in open source

Week 8: Maintaining Your Own Project

- Starting an open source project
- Attracting contributors
- Sustainable maintenance strategies
- Managing issues and pull requests

- Building a community around your project



Learning Outcomes

By the end of this course, you will be able to:

- Effectively use Git for collaboration and version control
- Understand open source licensing and legal considerations
- Contribute to existing open source projects following best practices
- Navigate and understand unfamiliar codebases
- Write clear documentation and communicate effectively with project maintainers
- Implement continuous integration and testing in open source projects
- Create and maintain your own open source projects
- Build inclusive and welcoming open source communities

Instructors

Our instructors are experienced open source contributors and maintainers with extensive experience in both technical and community aspects of open source development.

Assessment and Certification

- Weekly coding assignments and quizzes
- Open source contribution portfolio
- Final project: Creating or significantly contributing to an open source project
- Course completion certificate with detailed competencies

Resources

- Course materials will be provided through our learning platform
- Access to a dedicated GitHub organization for course projects
- Community forum for discussion and collaboration
- Office hours with instructors for personalized support

Download

Contact

Interested in enrolling or have questions about this course?

- Email: office@chen.ist
- Phone: Schedule a call to discuss your goals
- Web: Book a free consultation