Code, Collaborate, Grow

How Open Source Can Launch Your Career in Tech

Introduction

Savitha Raghunathan

- CNCF Ambassador, OSS Maintainer & Contributor
- Senior Software Engineer @ Red Hat

Why Open Source Matters

- Open Source powers the tools we use every day: Many essential technologies are open source, including PyTorch, TensorFlow, Jupyter, Kubernetes, and Podman.
- Over ~1B contributions to the public and OSS projects (GitHub Octoverse 2024)
- Community-driven innovation leads to faster iteration, shared knowledge, and accessible tools
- Real-world case study: OpenAI uses Kubernetes to efficiently schedule large-scale deep learning experiments, enabling rapid scaling across hundreds of GPUs

My OSS Journey

- Started with Kubernetes documentation
- Kubernetes 1.22 Release Lead
- Kubernetes SIG-Security docs subproject lead
- Contributed to OpenShift's Data Protection APIs
- Maintainer and Community Lead for Konveyor
- CNCF Ambassador

What Students Gain from OSS

- **Technical skills:** Git, containers, CI/CD, programming language frameworks, UI/UX
- **Non-technical skills:** Communication, writing proposals, project management, async collaboration, public speaking
- **Networking:** Connect with industry professionals, maintainers, and global peers
- **Opportunities:** Internships, mentorships, conference travel, GSoC, GHC OSD, LFX, Outreachy

How to Find the Right Project

- **Align with your passion**: AI/ML, data engineering, security, cloud, platform engineering, UX
- **Use existing resources**:
  - CNCF Landscape
  - LF AI Landscape
  - firstcontributions / first-contributions
  - goodfirstissue.dev
- **Join community spaces**: Slack, Discord servers, GitHub Discussions
- **Look for inclusive projects** with good onboarding docs and active mentorship

Your First Contribution

- Choose a beginner-friendly issue (good first issue or help wanted)
- Understand the project's architecture by reading docs or setup guides
- Try solving a bug or adding tests before jumping into features
- Ask clarifying questions in open forums – it shows initiative

Resources:

- GitHub Open Source Guides
- GitHub Skills Learning Lab
- First Contributions

OSS Projects for Data Science & AI

- Scikit-learn – ML Python module
- Hugging Face Transformers – models for inference & training
- PyTorch – deep learning
- Jupyter – notebook infrastructure
- Feast – feature stores
- Kubeflow – ML pipelines
- MLFlow – ML paltform

Community Participation Tips

- Attend office hours or community calls
- Read and comment on RFCs (Request for Comments)/Enhancements
- Ask for guidance if unsure about where to start
- Use respectful, inclusive communication
- Celebrate your small wins

From Contributor to Maintainer

- Stay active and responsive in discussions
- Help review PRs, update docs, and mentor others
- Lead a subproject or organize a local meetup
- Advocate for good governance and inclusive practices

Reference:

- CNCF Maintainer Circle
- The Value of Open Source Software

Career Impact of OSS

- OSS contributions are like a living resume - your GitHub profile becomes a transparent portfolio of your coding, reviewing, documentation, and collaboration skills. It shows what you know, how you learn and work with others.
- Many tech employers recruit directly from OSS communities. Many hiring managers review a candidate’s OSS activity as a substitute for traditional job experience.
- OSS contributions often lead to speaking opportunities at events like KubeCon, PyCon, and GHC Open Source Day. Active contributors are invited to participate in blogs, webinars, podcasts, and panels.

Career Impact of OSS - Continued

- Co-authoring documentation or research papers becomes possible through collaborations formed in open source communities.
- Many contributors report increased confidence, communication skills, and technical depth from regular involvement in real-world, asynchronous software development.

Busting Myths

Myths vs. Truths:

- “I need to be an expert” -> You learn by doing.
- “I don’t know where to start” -> Start small: fix typos, update links.
- “They don’t need my help” -> Every contributor makes the project stronger.
- “I’ll be judged” -> OSS communities value learners and respectful communication.

Non-Technical Roles in OSS

- Technical writing (e.g., documenting ML APIs, usage guides)
- Localization and translation
- Community moderation and event organizing
- Outreach via blogs, tutorials, and workshops

How to Start Now

- Set up your GitHub profile
- Learn basic Git commands - clone, commit, push, pull, branch
- Find a project that excites you (ML, security, tools, docs)
- Read the README and CONTRIBUTING.md
- Join the community chat (Slack, Discord, mailing list)
- Pick a good first issue and ask questions if needed
- Submit your first pull request - even a typo fix counts!
- Share your experience to inspire others

OSS Programs

- Google Summer of Code (GSoC)
- LFX Mentorship
- GHC Open Source Day
- Outreachy
- MLH Fellowship

Resources

- GitHub Open Source Guides
- CNCF Landscape
- LF AI Projects
- Open Source Friday
- Good First Issue

Closing Remarks & Q&A

- Low barrier to participate in open source
- Tech is changing fast – OSS keeps you learning
- Every contributor and contribution matters – whether it's code, docs, or ideas