



# User > Contributor

How documentation enables vibrant open source communities

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Technical writer

**“Diversity is a  
*number*, inclusion a  
*process*, equity an  
*outcome.*”**

**-jesshmitchell@**



**General population**



<https://www.bls.gov/cps/cpsaat11.htm>

**Professional programmers**



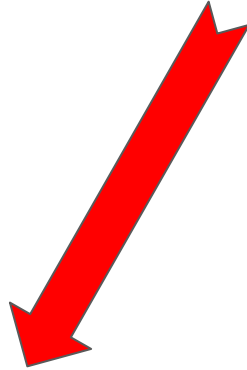
**Open source**



<http://opensourceurvey.org/2017>



**3%!**



**Open source**

# The process...

- Identify Stakeholders: TWs, PMs, TLs
- Understand challenges
- Set goals and expectations
- Set desired outcomes





# How to attract contributions in open source?

- **Who** are our users?
- **What** is the user -> contributor journey like?
- **What** are their information needs at every stage in the journey?

# The interviews...



18 subjects, all open source software users:

- 6 women, 12 men
- Diverse occupational and experience background
- Mixture of contributors (10) and non-contributors (8)
- All participants are based in the US.
- Thematic analysis to uncover common patterns & themes

G Guidea Team

Tags Bar chart Line chart

Projects

Search

Google Developer ...

Data

Analysis

Insights

Trash

Settings

Collapse

Support

Feedback

Rachel Price

Good Documentati... + ...

- Examples of Good Documenta... 7
- Qualities of Good Document... 54
- Language in Documentation 7

+ New tag

Contribution + ...

- Support to Become a Contrib... 17
- Contributing Documentation 27
- Triggers for Contributing Doc... 4
- Beliefs About Documentation 10

Personas + ...

- Persona Bucket 85
- Persona: Contribute vs Cons... 20
- Persona: job roles & fields 17
- Persona: Using OS at work 14

Tech Adoption + ...

- Info Needs for Tech Adoption 71
- Resources for Getting Info 44
- Assessment: Metadata 6
- Assessment: Activity & Health 28

Archived Tags

- Role of Docum...

+ New tag

Google Working Board | Trello x +  
https://trello.com/b/6HG9AB7o/google-working-board

Barriers to contributing documentation (beliefs/assumptions)

- Barrier: L... language skills are hard for devs; i'm required to translate my development speak
- Barrier: L... contributing documentation feels easier because it's piece-meal, discrete units of work (only 1 person said this, and they were a former tech writer)
- Barrier: F... documentation feels like a heavy contribution because it accompanies big changes, new features, new creations

Triggers for contributing documentation

- doc contributions happen bc I learned or did something that I thought would be valuable
- documentation accompanies features or new creations

Who should write documentation?

- documentation should be written by people who are super familiar with the project
- narrative documentation should be written by project owners
- I use technical writers at work for narratives or big documentation
- i don't use technical writers for "technical" documentation (short, lightweight, outlining technical specs but not giving directions)
- Technical writers are good for translating developer speak
- i don't have access to technical writers

Role of documentation vs code

- documentation is not very important
- documentation is equally as important as code
- documentation happens "after the fact", and is not as hands on as code
- spending time on small fixes in documentation is not important

Topics - Digging In

- illustrating queries or functions with code snippets, breakdown of steps, allowable variables, and examples.
- any integrations
- function explanations (what does each function do)
- description of how was done
- tools needed to run the code
- variable definitions

# Archetypes



Leader



Convinced



Competent



Curious

## Rory: Leader, contributing beyond code



- **Active** in OSS communities
- **Well supported at work**
- An **ambassador** with an active voice
- Lack of time

*Give me tools!*

## Avery: Convinced, but held back



- **Knows the value** of contributing
- Feels **safe** in the community
- Employer's skepticism & fear towards open source

*Help me convince my employer!*

## Taylor: Competent, but not convinced



- **Contributes code**, mostly bug fixes
- Fairly engaged in the community
- **Mistrust/skepticism** > project owners

*Convince me!*

## Parker: Curious, but not confident



- **Curious** about how to get involved
- **Faces a lot of internal barriers**, doesn't understand open source.
- **Doesn't have external support**

*Take my hand and show me how it's done!*





How does Parker pick a project?



Is this project “right” for me?

**Assess**



Is this project reliable?

**Assess**



What are the parts & pieces?

**Assess**



Any legal / policy implications of using this project?

**Assess**



**Assess**

**Adopt**



**Assess**

**Adopt**

**Hit a problem!**



**Assess**

**Adopt**

**Adapt**





**Assess**

**Adopt**

**Adapt**



**Assess**

**Adopt**

**Adapt**



**Assess**

**Adopt**

**Adapt**

**Contribute**



**Why?**

**What?**

**How?**

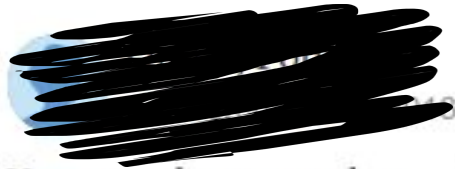


93%



<https://opensourceurvey.org/2017/>

# How do I learn open-source frameworks and libraries if I don't understand official documentation?



You can always read some books. If that does not help either, you can work on your own software projects for a couple of years, just like you play the guitar. Then you will be able to understand official documentation and the books. Bottom line : you do not “learn” open source frameworks, libraries and documentation, you just “use” them. So, if you have a particular framework / library in mind, try to implement something small using only a few functions from the library and see how that goes. Then, take up something more challenging and so on until you can dazzle everybody with your software engineering skills just as you play your guitar.

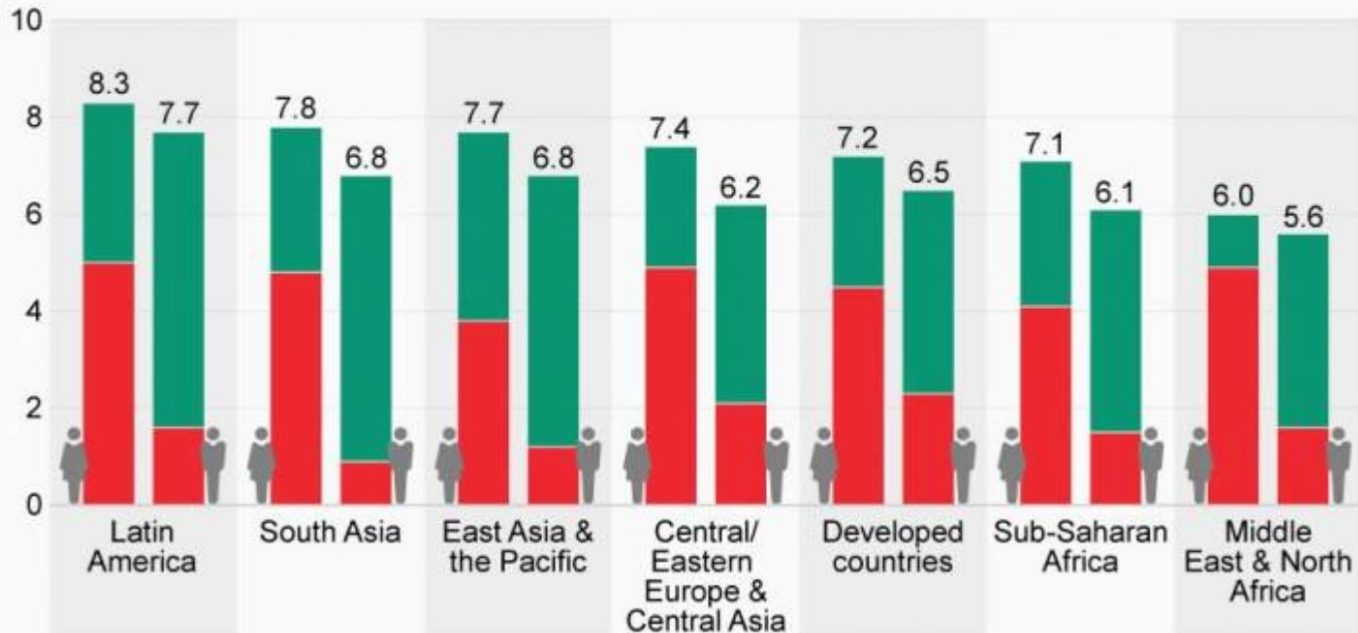




## Women Work More Than Men

Average total hours of work done per day (paid and unpaid), by gender and region

Unpaid Paid



Total figures may differ slightly from the source due to rounding.  
A total of 75 countries were included in the analysis.



@StatistaCharts

Source: MenCare

statista

The Statistics Portal  
Visit [www.statista.com](http://www.statista.com)

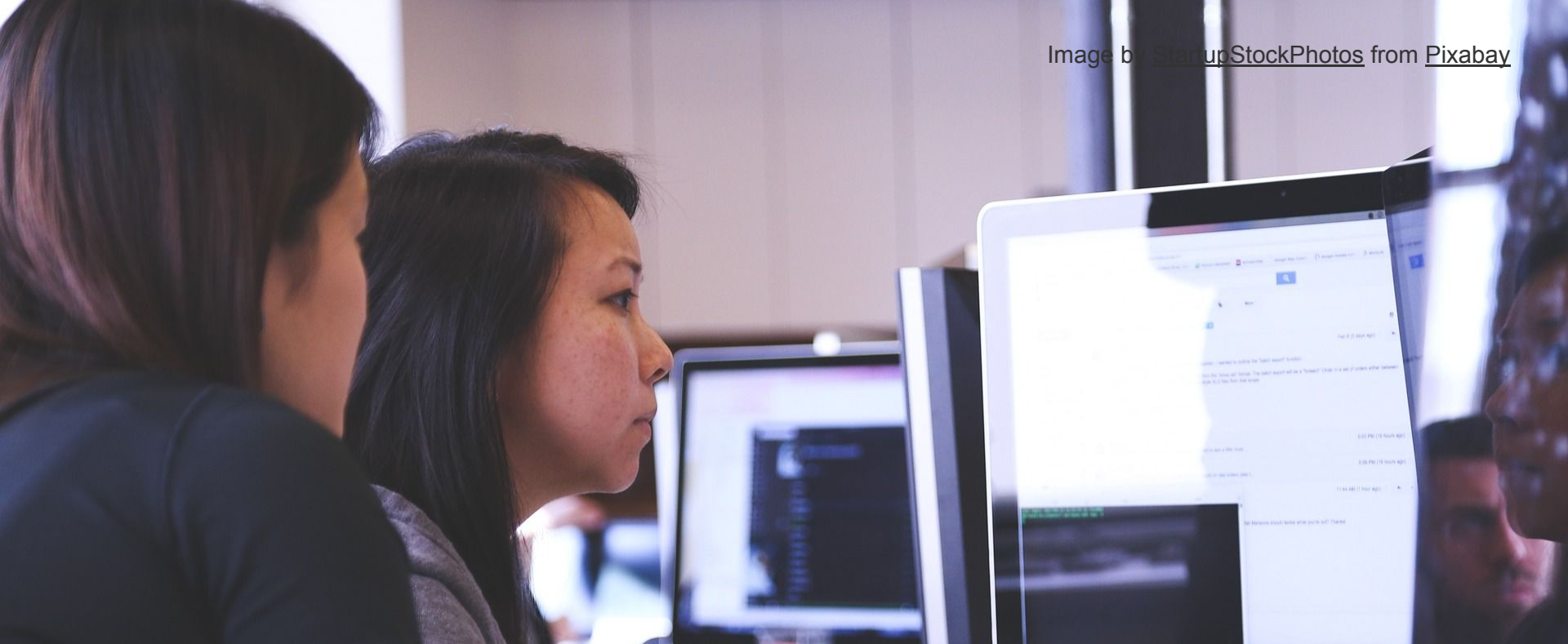


**"Free time to contribute to open source is a privilege." - [Dries Buytaert](#)**



**Not everybody experiences online communities in the same way.**





**Nearly a quarter of the open source community reads and writes English less than ‘very well.’**

<https://opensourceurvey.org/2017/>



**Not everybody is an expert.**



Image by [PIRO4D](#) from [Pixabay](#)







Empower people to take the leap with clear, accessible documentation about the **project**, **code**, and **community**.



**Assess**

- **"Is this project right for me?"**
  - Platform, languages
  - Use cases
- **"Can I get started quickly?"**
  - Getting started guides / tutorials
  - Well -organized navigation
- **"Help me convince my manager!"**
  - Use cases / success stories
  - Legal implications / requirements
- **"Help me get started with GitHub!"**
  - Pointers / guides towards getting started



Assess

The image shows two overlapping browser windows. The top window is the PyTorch website, with the 'Resources' link in the navigation bar circled in blue. The bottom window is the TensorFlow website, with the 'Tutorials' link in the navigation bar circled in blue. The TensorFlow page displays the 'Get Started with TensorFlow' section, which includes a list of topics and a code snippet for training a neural network.

**PyTorch Resources**

Explore educational courses, get your questions answered, and join the discussion with other PyTorch developers.

**TensorFlow Tutorials**

Get started with TensorFlow

Learn and use ML

The high-level Keras API provides building blocks to create and train deep learning models. Start with these beginner-friendly notebook examples, then read the [TensorFlow Keras guide](#).

1. Basic classification
2. Text classification
3. Regression
4. Overfitting and underfitting
5. Save and load

```
import tensorflow as tf
mnist = tf.keras.datasets.mnist

(x_train, y_train), (x_test, y_test) = mnist.load_data()
x_train, x_test = x_train / 255.0, x_test / 255.0

model = tf.keras.models.Sequential([
    tf.keras.layers.Flatten(input_shape=(28, 28)),
    tf.keras.layers.Dense(512, activation=tf.nn.relu),
    tf.keras.layers.Dropout(0.2),
    tf.keras.layers.Dense(10, activation=tf.nn.softmax)
])
model.compile(optimizer='adam',
              loss='sparse_categorical_crossentropy',
              metrics=['accuracy'])

model.fit(x_train, y_train, epochs=5)
model.evaluate(x_test, y_test)
```





**Adopt**

- **"Standard" engineering documentation**
  - API references
  - Tutorials
  - Additional how-to guides
  - Troubleshooting
- **Help resources**
  - Pointers to social media / help
- **Structured, organized docs**
  - Well-organized navigation
  - Search



Adopt

Welcome to PyTorch Tutorials - x +  
← → ↻ <https://pytorch.org/tutorials/> ☆ 🗄️ 🔍 🌐 🚀 📄 👤 ⋮

PyTorch

Get Started Features Ecosystem Blog **Tutorials** Docs Resources Github

Tutorials > Welcome to PyTorch Tutorials

## WELCOME TO PYTORCH TUTORIALS

To learn how to use PyTorch, begin with our Getting Started Tutorials. The **60-minute blitz** is the most common starting point, and provides a broad view into how to use PyTorch from the basics all the way into constructing deep neural networks.

Some considerations:

- If you would like to do the tutorials interactively via IPython / Jupyter, each tutorial has a download link for a Jupyter Notebook and Python source code.
- Additional high-quality examples are available, including image classification, unsupervised learning, reinforcement learning, machine translation, and many other applications, in [PyTorch Examples](#).
- You can find reference documentation for the PyTorch API and layers in [PyTorch Docs](#) or via inline help.
- If you would like the tutorials section improved, please open a [github issue](#) here with your feedback.
- Check out our [PyTorch Cheat Sheet](#) for additional useful information.
- Finally, here's a link to the [PyTorch Release Notes](#)

### Getting Started

Deep Learning with PyTorch: A 60 Minute Blitz

Data Loading and Processing Tutorial

Examples  
Learning PyTorch with Examples

1.0.0.dev20190318

🔍 Search Tutorials

Getting Started

- Deep Learning with PyTorch: A 60 Minute Blitz
- Data Loading and Processing Tutorial
- Learning PyTorch with Examples
- Transfer Learning Tutorial
- Deploying a Seq2Seq Model with the Hybrid Frontend
- Saving and Loading Models
- What is torch.nn really?

Image

- Finetuning Torchvision Models
- Spatial Transformer Networks Tutorial
- Neural Transfer Using PyTorch
- Adversarial Example Generation
- Transferring a Model from PyTorch to Caffe2 and Mobile using ONNX

Text

- Chatbot Tutorial
- Generating Names with a Character-Level RNN
- Classifying Names with a Character-Level RNN
- Deep Learning for NLP with Pytorch
- Translation with a Sequence to Sequence Network and Attention

Welcome to PyTorch Tutorials

- Getting Started
- Image
- Text
- Generative
- Reinforcement Learning
- Extending PyTorch
- Production Usage
- + PyTorch in Other Languages



**Contribute!**

- **Guidelines for moderators and reviewers**
- **Welcoming documentation**
  - For new users
  - For new contributors
- **Contribution guidelines**
  - Doc contribution guidelines!
- **Recognizing and rewarding documentation**



Lack of documentation  
is a **highly effective**  
**barrier** to adoption  
and contribution.

**Psychological safety  
is paramount.**

Documentation that clearly describes the **project**, its **code**, and the **community** builds safety and empowers contributors.

**Docs or it didn't happen.**

@iamaijamal  
@rionam  
#bbuzz



Seek out, support, and  
recognize **doc**  
**contributions.**

**“Diversity is a  
number, inclusion a  
process, equity an  
outcome.”**

**-jesshmitchell@**

**Tribal knowledge  
concentrates power  
in the hands of the  
privileged few.**

**Knowledge is power.**

@iamaijamal  
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#bbuzz

# Thank you!



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