

# **[SORSE] Lightning talk session**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

# Development of an Automated High-Throughput Animal Training Platform

*Wednesday, January 20, 2021 3:00 PM (10 minutes)*

In traditional neuroscience laboratory research, training animals to execute sensorimotor tasks is time consuming, labor and resource intensive, and prone to human bias and error. The Research Software Engineering team at Harvard University's Faculty of Arts and Science Research Computing (FASRC) has developed an automated training system pipeline that standardizes and automates animal training. The pipeline consists of Teensy microcontrollers that monitor animal training events, RaspberryPis that orchestrate and log training instructions, PiCameras that record subjects, and open-source software, including a Vue web interface, a Flask server, and a PostgreSQL database.

The automated training system produces comparable learning rates to the traditional neuroscience model, with a fraction of the effort and at minimal cost. In this lightening talk, we will review the hardware and software pipelines and describe how researchers use the tool.

**Presenter:** LEINICKE, Sarah

**Session Classification:** Lightning Talks

Contribution ID: 2

Type: **not specified**

## Code Review Community

*Wednesday, January 20, 2021 3:10 PM (10 minutes)*

Code review for research software is the process by which peers evaluate each other's source code. This involves checking that the code does what it claims and is written in a way that can easily be read, maintained, and built upon. Code review is an important tool for ensuring that software is high-quality and reusable, and should be a widely-adopted "best practice".

The Code Review Community Working Group (CRC) aims to build consensus and awareness around good practice in code review. The CRC is a collaboration between research software engineers, funders, society representatives, academic publishers, and researchers.

The CRC consists of 5 task forces that will begin work in 2021:

- Diversity, equity, and inclusion
- Code review during development
- Code review at the time of publication
- Recommendations for stakeholders
- Training and education

Have we piqued your interest? The CRC is keen to have you on-board; you're encouraged to participate in any of the task forces. Join us via email ([hollydawn.murray@gmail.com](mailto:hollydawn.murray@gmail.com)). Equally, don't hesitate to get in touch if you have an idea for collaboration.

**Presenter:** MURRAY, Holly

**Session Classification:** Lightning Talks

Contribution ID: 4

Type: **not specified**

## Embedding a Jupyter Notebook

*Wednesday, January 20, 2021 3:20 PM (10 minutes)*

Many RSEs and researchers are familiar with using Jupyter Notebooks to analyse data and output results, but how can this functionality be included within a larger platform or application? Creating a new analysis tool would take a lot of developer hours, and so a more cost-effective solution could be to embed Jupyter within your application.

This is the approach I took last year and in this lightning talk and blog post I will describe how it works, and what were the major hurdles to overcome. I will show you how to connect Jupyter to your authentication system, integrate it with your UI and how to avoid setting up a file system.

This lightning talk should be accessible to all RSEs but will be of particular interest to those developing web applications and analysis platforms.

The blog post that accompanies the lightning talk has already been published on Medium, but I would like this opportunity to share the information with a wider audience.

**Presenter:** FOREY, Teri

**Session Classification:** Lightning Talks