

Introduction to the Neuro Data Science course

Neuro Data Science course

JB Poline

McGill

Aug 5 2019

History and rationales

- The OHBM hackathons, other hackathons

History and rationales

- The OHBM hackathons, other hackathons
- The Brainhack schools:
 - Gathering and grouping some of the tutorials

History and rationales

- The OHBM hackathons, other hackathons
- The Brainhack schools:
 - Gathering and grouping some of the tutorials
- The software and data Carpentries
 - recognized the need to teach computational skills

History and rationales

- The OHBM hackathons, other hackathons
- The Brainhack schools:
 - Gathering and grouping some of the tutorials
- The software and data Carpentries
 - recognized the need to teach computational skills

Who is this course for ?

- Who is it not for ?
 - you are already an expert in programming

Who is this course for ?

- Who is it not for ?
 - you are already an expert in programing
 - you are already an expert in statistics and machine learning

Who is this course for ?

- Who is it not for ?
 - you are already an expert in programing
 - you are already an expert in statistics and machine learning
 - you have never seen a line of code before

Who is this course for ?

- Who is it not for ?
 - you are already an expert in programing
 - you are already an expert in statistics and machine learning
 - you have never seen a line of code before

Results from the survey: where are you from?

Institution

41 responses

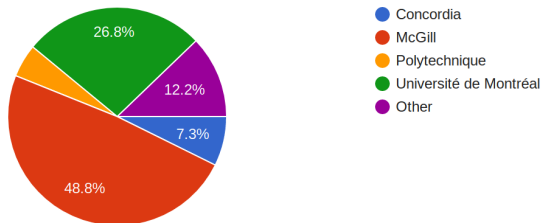


Figure 1: institutions

Results from the survey: positions?

Position

41 responses

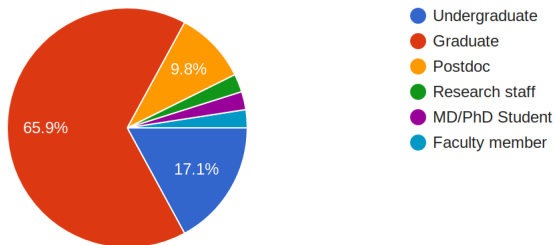


Figure 2: positions

Results from the survey: experience with git and github

Please rate your experience working with Git/Github.

41 responses

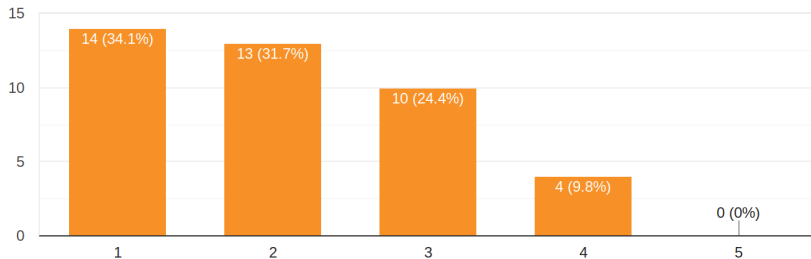


Figure 3: experience-with-git-gh

Results from the survey: experience with statistics

Which best fits your experience with statistical analysis

41 responses

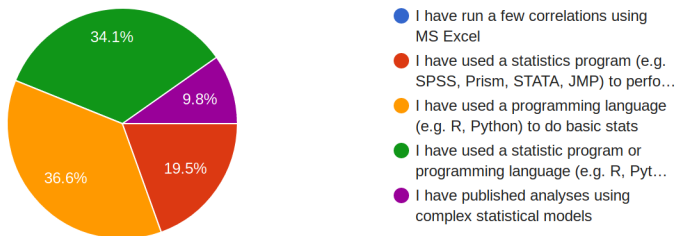


Figure 4: experience-with-statistics

Results from the survey: experience with python

Please rate your experience working with Python.

41 responses

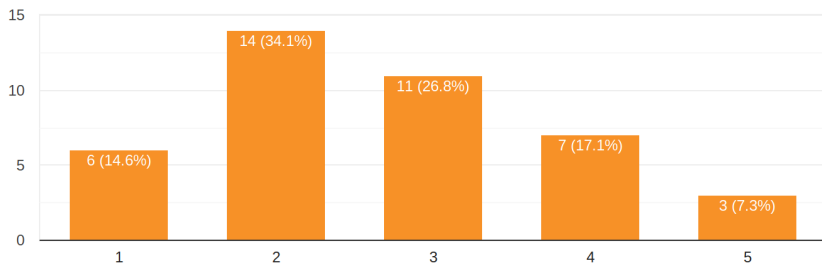


Figure 5: experience-with-python

Results from the survey: experience with programing

Have you written a program before ?

41 responses

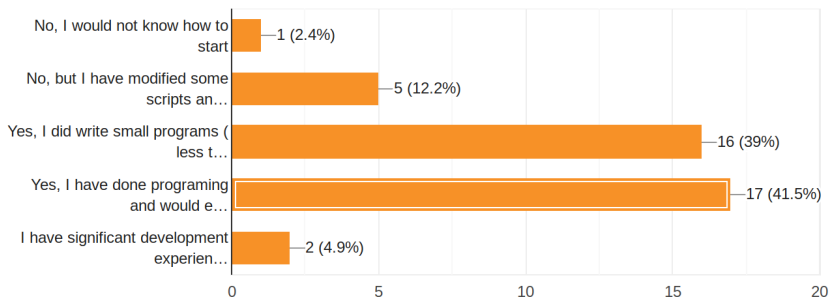


Figure 6: experience-with-programing

Results from the survey: important-to-learn

What would be most important for you to learn? (choose a maximum of 3)

41 responses

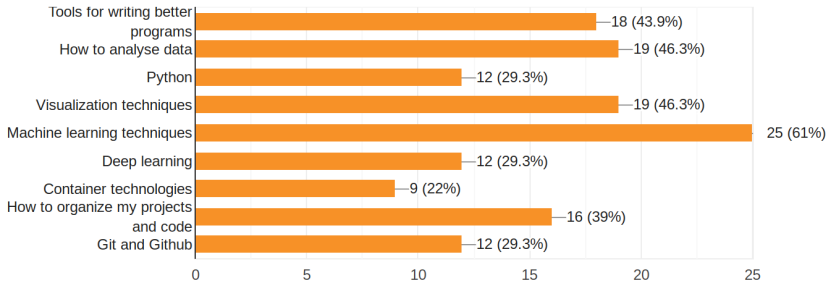


Figure 7: important-to-learn

Who is giving this course ?

- Experienced researchers
 - often combine experience in computational tools, analysis methodology and neuroscience

Who is giving this course ?

- Experienced researchers
 - often combine experience in computational tools, analysis methodology and neuroscience
- Experienced TAs
 - closer to what is practically useful
 - know what is hard

Who is giving this course ?

- Experienced researchers
 - often combine experience in computational tools, analysis methodology and neuroscience
- Experienced TAs
 - closer to what is practically useful
 - know what is hard
- YOU
 - you are all also teachers for others
 - you are teaching yourself

Course philosophy

- More **active learning**

Course philosophy

- More **active learning**
- You are also learning from **each other**

Course philosophy

- More **active learning**
- You are also learning from **each other**
- You are learning to **collaborate on the work**

Course philosophy

- More **active learning**
- You are also learning from **each other**
- You are learning to **collaborate on the work**
- Giving you some key concepts

Course philosophy

- More **active learning**
- You are also learning from **each other**
- You are learning to **collaborate on the work**
- Giving you some key concepts
- Giving you the tools to continue learning after the course

Conventional and un-conventional

- conventional:
 - some formal material (all material online)
 - some quizzes

Conventional and un-conventional

- conventional:
 - some formal material (all material online)
 - some quizzes
- unconventional:
 - a layer for your project based learning
 - learn to work together, learn to learn
 - focus on interactivity
 - quizz evalation makes for only 10%

What if ...

- I do not understand the maths (there will be a little of that)
 - This is not a math course.
 - Ask instructors for some background material

What if ...

- I do not understand the maths (there will be a little of that)
 - This is not a math course.
 - Ask instructors for some background material
- I am always behind the coding: I need more time
 - use the stickers, ask for help
 - ask questions: slow us down
 - all the material is online: you can go back

What if ...

- I do not understand the maths (there will be a little of that)
 - This is not a math course.
 - Ask instructors for some background material
- I am always behind the coding: I need more time
 - use the stickers, ask for help
 - ask questions: slow us down
 - all the material is online: you can go back
- I know most of this - I feel I am losing my time
 - Can you improve the material ? make suggestions ?
 - Can you help others ? you may learn this way
 - Do you have a project you can start ?

Logistics:

- Internet
 - mcgill guest wifi

Logistics:

- Internet
 - mcgill guest wifi
- Mattermost
 - <https://mattermost.brainhack.org/brainhack/channels/brainhack-school-mtl>
 - slack workspace ?

Logistics:

- Internet
 - mcgill guest wifi
- Mattermost
 - <https://mattermost.brainhack.org/brainhack/channels/brainhack-school-mtl>
 - slack workspace ?
- github space

Logistics:

- Internet
 - mcgill guest wifi
- Mattermost
 - <https://mattermost.brainhack.org/brainhack/channels/brainhack-school-mtl>
 - slack workspace ?
- github space
- Redpath Library: Research Commons A

Logistics:

- Internet
 - mcgill guest wifi
- Mattermost
 - <https://mattermost.brainhack.org/brainhack/channels/brainhack-school-mtl>
 - slack workspace ?
- github space
- Redpath Library: Research Commons A
- lunch is served 12-1pm
 - lunch is part of the course !
 - Coffee breaks as well !

Course syllabus and schedule

- The course site:
`https://neurodatascience.github.io/course-2019`
- material: `https://github.com/neurodatascience/NeuroDataSci-course-2019`

Course syllabus and schedule

- The course site:
<https://neurodatascience.github.io/course-2019>
- material: <https://github.com/neurodatascience/NeuroDataSci-course-2019>
- Remember happy hour on Tuesday: highly recommended

Course syllabus and schedule

- The course site:
`https://neurodatascience.github.io/course-2019`
- material: `https://github.com/neurodatascience/NeuroDataSci-course-2019`
- Remember happy hour on Tuesday: highly recommended
- We have prepare some material for Friday pm but...
 - We will adapt from your feedback

Evaluations:

- quizzes 10%
- project presentation:
- participation:
- report:

Questions?

- Questions

Acknowledgements (week 1)

- Elizabeth Dupré (co-organizer)
- Jake Vogel (co-organizer)
- Pierre Bellec
- Andrew Doyle
- Félix-Antoine Fortin
- Peer Herholz
- Greg Kiar
- Diana Le
- Liza Levitis
- Bratislav Misic
- Manjari Narayan
- Kendra Oudyk
- Estefany Suarez
- Joe Viviano