FourthBrain

# Machine Learning Engineer

# Welcome Packet

**July 2021**

Welcome to the FourthBrain Machine Learning Engineer program!

## Your instructors

**Lead Instructor: Brian Spiering**
Brian Spiering is a Machine Learning Instructor at FourthBrain. He is a passionate data science educator who blends best practices from academia and industry to deliver cutting-edge curriculum. His teaching style is rooted in his psychology and neuroscience background. When Brian is not teaching, he gives back to the tech community through volunteering and mentoring.

## Format and Structure

The program is 16 weeks long. You can read more about the technical content and weekly schedule in the Syllabus (found in the Syllabus tab in Canvas).

Each week, you will have videos, readings, and assignments to do on your own time. These assignments are due on the day before class (Fridays for the Saturday section, and Wednesdays for the Tuesday / Thursday section). You can find all these materials you need in our Canvas course, under Modules, and you will also submit assignments and projects via Canvas. Each Module corresponds to one week.

Every week, you'll join your live class session via Zoom. Check Canvas for the link.

## Guest Speakers and Optional Workshops

Some weeks we will have a guest speaker. These are individuals in the ML field who come to talk about their company, their career path, a technical topic, or something else. We will share information about the guest speaker ahead of time, and we encourage you

to come prepared with a question or two.  Some weeks they will be during the Tuesday evening session, and some weeks they will be during the Saturday morning session. You are welcomed and encouraged to attend the guest speaking events that happen during the other class section time.

Occasionally, we will have additional sessions during the week, outside of the Saturday live sessions. These are optional, but we encourage you to attend if possible. Usually these are additional workshops (on resumes, AWS, or special topics).

## Canvas

All course materials will be found in Canvas. This includes videos, readings, assignments, and communications. Here are a couple important things to know about Canvas:

- When you login, you'll see the course **Home Page**. This will include the most important links for the class, including the live session Zoom links and the office hours schedule.
- You'll spend most of your time in the **Modules** section. Each week is one module, and within the module you'll find the week's videos, readings, and assignments. After your live session, we will add feedback forms, slides, and the recordings to this module so you can go back and view them at any time.
- **Discussions** work like a forum, where anyone can make a topic and respond in threads to each other.
- **Announcements** will be used to send messages from the staff to all of you. **Please make sure to check your email inbox for emails from Canvas** - they can go to Spam folders. Please also make sure you have Announcement notifications turned on (Click on your profile in the top left area, select Notifications, and make sure that Announcement notifications are turned on).

## How to get help and Response Times

### Slack

You'll have access to Slack throughout the program. This is the best place to ask questions, talk to your classmates and instructors, and share interesting and relevant articles about Machine Learning.

Each channel has a description about what that channel is intended for:

- #july-21-cohort: general announcements, questions and discussions.
- #july-21-assignment-questions: questions specific to the assignments that week.
- #news-and-articles for interesting articles or events

- and more

Please answer each other's questions if you know the answer!! Your peers will be among your best resources. Our instructors will also be in Slack answering questions. You can expect that you will get a response in no more than 24 hours.

**Office Hours**
Each instructor will hold office hours during the week. Each instructors' office hours will be listed in Canvas with the links to join.

We may change these as we find what times work best for you and the larger cohort, so please let us know if the times aren't convenient for you.

**Additional Questions for Subject Matter Experts**
This cohort will have additional support from a Subject Matter Expert (SME). The role of the SME is to provide guidance regarding:

- Industry use cases, e.g. use of computer vision, autonomous drive, medical imaging, conversational AI, audio, speech processing, e-commerce etc.
- Industry specific best practices
- R&D vs Production pipelines, metrics and best practices

The SME is reachable via Canvas. Please start a discussion topic in Canvas, and the SME will review and answer questions each week. If you'd prefer for your question to be anonymous, you can email the SME in Canvas. Questions will be collected and answered every Friday afternoon.

## Sections and Live Class Sessions

The May cohort is divided into two class sections based on the live session schedule. Both sections will share Slack channels and Canvas, so you will sometimes interact with students from the other sections.

The live sessions include an **Instruction Session** and a **Study Session,** all on Zoom.

- The **Instruction Session** includes a lecture and review from the Lead Instructor, an introduction to the weekly project, general announcements, and sometimes a guest speaker. This session is recorded each week.

- The **Study Session** is when you get hands-on with the weekly project. You'll break into small groups and work through the weekly project with support from the instructors and TAs.

| | **Saturday Section** | **Tuesday/ Thursday Section** |
|---|---|---|
| **Instruction Session** | Saturday 9am-12pm | Tuesday 4-7pm |
| **Study Session** | Saturday 12:30pm - 3pm | Thursday 4-7pm |

We expect your attendance and participation for all live sessions. If you cannot make class one week and would like to attend the other live section, please let your instructor know.

**How to use breakout rooms effectively**

Breakout sessions are an opportunity to collaborate in a smaller group setting. This prepares you to articulate your problems/issues you are facing in a constructive way with fellow engineers. Breakout sessions will typically have 4-5 participants per session, and will rotate each week. The goal is to get through your assigned tasks in the stipulated time allocated for the tasks.

Below are some tips to use these breakout sessions most effectively:

- Download the Data and Code prior to class (they will be sent out ahead of time). Read the codebook prior to class to bring questions to the Live sessions.
- One way to best use the breakout session time is for all participants to read and understand the tasks individually. Try coding for 10-15 mins and gathering questions before sharing questions and ideas with each other.
- Participant screen sharing is highly recommended during the breakout sessions especially if you are stuck and unable to troubleshoot on your own.
- Seek help when the group is unable to troubleshoot a task beyond some reasonable time frame.
- TAs and instructors will be constantly visiting breakout sessions to check in your group status. But please don't hesitate to ask for help (breakout session button) when an issue arises.
- For questions about the use cases of the method you are working on, consider asking them in the joint session as opposed to a breakout session.

- Every Live session will have 1-2 breakout sessions that will conclude in a group session led by the instructor. Please ask your big picture questions, major coding bottlenecks etc. in the whole group session.

**Graduation Requirements**

In order to graduate from this program, there are several requirements:

- **Attendance**: Students are expected to attend weekly live sessions, generally held on Saturdays. Students are permitted to miss two in-class sessions, with advance notice to the instructor.
- **Assignment Completion**: Students must complete at least 70% of weekly assignments.
- **Midterm Project:** Students must obtain at least 50% grade for the midterm project.
- **Capstone Project:** Students must participate in the midterm project pitches and the final capstone project, and submit satisfactory work as determined by the instructor.

**Code of Conduct**

Please familiarize yourself with the Code of Conduct. Any behavior that interferes with a respectful, collaborative environment will not be tolerated.

**Career Services**

Our Career Services Manager, Mariam Sallam, will be your partner in your career growth during the program. Whether you are actively looking for a new role, looking to gain skills for your current position, or just taking this program for fun, we will support your growth during and after the program.

During the program, Mariam will coordinate guest speakers, set you up with practice interviews, and share tips on job searching. She will also be reaching out to each of you for individual calls to get a deeper understanding of your career goals so she can support you.