

# Data Science Summer Camp Staff and Schedule

## **Program Directors:**

Tianxi Cai, Professor of Translational Data Science, Harvard Medical School, Dept of Biomedical Informatics

Jesse Gronsbell, Assistant Professor, University of Toronto, Dept. of Statistical Sciences

Junwei Lu, Assistant Professor, Harvard School of Public Health, Dept. of Biostatistics

## **Instructors:**

Jesse Gronsbell, Assistant Professor, University of Toronto, Dept. of Statistical Sciences

Marinka Zitnik, Assistant Professor of Biomedical Informatics, Harvard Medical School

## **Teaching Assistants:**

Vidul Ayakulangara Panickan, Research Associate in Biomedical Informatics, Harvard Medical School (Deputy Program Director)

Michelle Li, Berkowitz Postdoctoral Research Fellow, Harvard Medical School

Emily Gao, Undergraduate at Harvard University studying Computer Science and Statistics

Yuan Hongyi, Visiting PhD candidate, Harvard University

## **Program Staff:**

Amanda King, Program Manager, Harvard School of Public Health, Dept of Biostatistics

Mo Moro, Project Coordinator, Harvard Medical School, Dept of Biomedical Informatics

[https://celehs.hms.harvard.edu/camp\\_instructors.html](https://celehs.hms.harvard.edu/camp_instructors.html)

[https://celehs.hms.harvard.edu/camp\\_team.html](https://celehs.hms.harvard.edu/camp_team.html)

## **Schedule**

**Orientation: June 22, 11am - 1pm**

**Class: 9:15am - 4:00 pm**

Week 1: June 27, 28, 29 (Virtual TA Assistance), July 1

Week 2: July 2, 3, 5 (Virtual TA Assistance), 8, 9, 10

**\*\*Please Note: We will have virtual office hours on Saturday, June 29 and Friday, July 5.**

**9AM-1PM**

## Orientation

**Where:** Countway Library, Drop-off point **695 Huntington Ave., Boston, MA 02115**

**Time:** June 22nd, 11:00 am - 1:00 pm

10:45 AM	Teaching staff meeting
11:00 -11:15 AM	Meet students at 695 Huntington Ave., Boston, MA 02115.
11:15-12 PM	Introduction to program from Tianxi Instructor/TA introductions Program Overview Q/A
12:00 - 12:20PM	Student introductions Introduce the ice breaker
12:20 - 12:50PM	Lunch + ice breaker Last 10 minutes: Share out (from ice breaker)
12:50 - 1:00PM	Q/A & Closing remarks

## Week 1

June 27- July 1, 2023 | 9:15am – 4:00pm

<b>Time</b>	<b>Activity</b>	<b>Instructors/Notebooks Covered</b>
9:15 AM	Arrival Time	
9:30 – 10:30 AM	Introduction to Programming/Python	TAs - Emily/Hongyi
10:30 - 10:50	Snacks	20 Mins Break
10:50 – 11:50 AM	Python Practice + Q&A	TAs
11:50 – 12:00 AM	Break	10 Mins Break
12:00 – 1:00 PM	Python Practice Cont.	TAs

1:00 - 2:15 PM	Lunch career talk with Guest Speakers	6/27 - Larry Han 7/1 - Layla Parast
2:15 – 3:00 PM	Car Building and Troubleshooting	TAs
3:00 – 3:10 PM	Break	10 Mins Break
3:10 – 4:00 PM	Car Building and Troubleshooting	TAs

**Week 2:**

July 2 - 10, 2023 | 9:15 am – 4:00 pm

**Tuesday , July 2 | Room**

<b>MA Time</b>	<b>Activity</b>	<b>Topic</b>	<b>Comments/TAs/Notebooks Covered</b>
9:15 AM	Arrival Time		
9:30 - 10:15 AM	Lecture on Statistics/ML	Stats Intro + Least squares + Logistic Regression	Tianxi Cai
10:15 - 10:25 AM	Break		10 Mins Break
10:25 - 11:00 AM	Programming Practice	Least squares / Logistic Regression Notebook	Emily
11:00 - 11:20 AM	Snacks		20 Mins Break

11:20 -12:05 PM	Lecture on AI/ML	Conceptual introduction to Deep Learning and AI	Michelle
12:05 - 12:15 PM	Break		10 Mins Break
12:15 - 1:00 PM	Programming Practice	Intro to Neural Networks	Michelle
1:10 - 2:00 PM	Lunch	Lunch Career Talk	James Zou
2:10 - 3:00 PM	Car Building	Car Building	
3:00 - 3:10 PM	Break		10 Mins Break
3:10-4:00 PM	Car Building	Car Building	TAs

**Wednesday, July 3 | Room**

<b>MA Time</b>	<b>Activity</b>	<b>Topic</b>	<b>Comments/TAs/Notebooks Covered</b>
9:15 AM	Arrival Time		
9:30 - 10:15 AM	Introduction and Lecture on Statistics/ML	Conceptual Introduction to Data Science	Emily
10:15 - 10:25 AM	Break		10 Mins Break
10:25 - 11:00 AM	Programming Practice	Exploratory Data Analysis	Emily
11:00 - 11:20 AM	Snacks		20 Mins Break
11:20 - 12:05 PM	Lecture on AI/ML	Computer Vision + Introduction to Convolutional Neural Networks	Michelle
12:05 - 12:15 PM	Break		10 Mins Break

12:15 - 1:00 PM	Programming Practice	Introduction to Convolutional Neural Networks Part 1	Michelle
1:10 - 2:00 PM	Lunch	Lunch Career Talk	
2:10 - 3:00 PM	Car Building	Car Building	
3:00 - 3:10 PM	Break		10 Mins Break
3:10-4:00 PM	Car Building	Car Building	TAs

### July 4 - July 7 Holidays

- **July 5th TA Virtual hours: 9 AM to 1 PM**
- **Take home activities for holidays: Labeling Images, Practice Notebook**

### Monday, July 8 | Room (Special Schedule)

MA Time	Activity	Topic	Comments/TAs/Notebooks Covered
9:15 AM	Arrival Time		
9:30-10:00	Programming Practice	Introduction to Convolutional Neural Networks Part 2	Michelle
10:00-10:45 AM	Lecture on AI/ML	AI Advanced Topics	Marinka
10:45 - 11:05 AM	Snacks		20 Mins Break
11:05 -11:50 AM	Lecture on Statistics/ML	Model Evaluation	Jesse
11:50 - 12:00 PM	Break		10 Mins Break
12:00 -12:30 PM	Programming Practice	Model Evaluation	Michelle
12:30 - 1:00 PM	Programming Practice	Introduction to Convolutional Neural Networks Part 3	Michelle

1:00 - 2:10 PM	Lunch	Lunch Career Talk	Rebecca Hubbard
2:10 - 3:00 PM	Car Building	Car Building	
3:00 - 3:10 PM	Break		10 Mins Break
3:10-4:00 PM	Car Building	Car Building	TAs

**Tuesday, July 9 | Room**

<b>MA Time</b>	<b>Activity</b>	<b>Topic</b>	<b>Comments/TAs/Notebooks Covered</b>
9:15 AM	Arrival Time		
9:30 - 10:15 AM	Lecture on Statistics/ML	Clustering/Dimension Reduction	Jesse
10:15 - 10:25 AM	Break		10 Mins Break
10:25 - 11:00 PM	Programming Practice	Clustering Practice	Emily
11:00 - 11:20 AM	Snacks		20 Mins Break
11:20 - 12:05 PM	Lecture on AI/ML	Large Language Models (Text)	Hongyi
12:05 - 12:15 PM	Break		
12:15 - 1:00 PM	Programming Practice	Large Language Models	Michelle: Vision + LLM Notebook Hongyi: LLM Notebook
1:00 - 2:10 PM	Lunch	Video Day	Video Day
2:10 - 3:00 PM	Car Building	Car Building	
3:00 - 3:10	Break		10 Mins Break
3:15-4:00 PM	Car Building	Car Building	TAs

**Wednesday, July 10 | Room**

MA Time	Activity	Topic	Comments/TAs/Notebooks Covered
9:15	Arrival Time		
09:30 - 10:15 AM	Research Spotlight		
10:15 - 10 :25 AM	Break		10 Mins Break
10:25 - 10:45 AM	Talk	Data Science Resources	Vidul
10:45 - 11:05 AM	Snacks		20 Mins Break
11:05 - 1:00 PM	Car Demo + Presentation Prep		Students + TAs
1:00 - 2:10 PM	Lunch		
2:10 - 3:20 PM	Final Presentation	Final Presentation	
3:20 - 4:00 PM	Camp Completion Ceremony		

**Parking Instruction for [Countway Library](#)**

There is fairly limited parking in the area. If you do absolutely require parking here are a couple of nearby parking suggestions:

Metered street parking on Huntington Avenue.

[Brigham and Women's parking garage on Francis Street.](#)

[Children's Hospital parking garage on Longwood Avenue.](#)

Drop off information:

Countway Address Visitor and delivery address: **695 Huntington Ave., Boston, MA 02115. This will be the easiest drop-off point and where we will meet for orientation!!** The official address of the building is 10 Shattuck Ave.

The closest T stop is Brigham Circle on the Green Line E train.

### **Lunch**

Lunch and snacks will be provided. However, if you have dietary restrictions and would like to bring your own food, you are welcome to do so.

### **Laptops**

If you have your own laptop, we suggest that you bring it so you can work on programming sessions independently. If you don't, that's ok - we will have computers you can use together.

### **Primary Contact**

If you have any questions, please contact:

Amanda King - [amking@hsph.harvard.edu](mailto:amking@hsph.harvard.edu)

Mohammed Moro - [mohammed\\_moro@hms.harvard.edu](mailto:mohammed_moro@hms.harvard.edu)