

Tutorial

#CCV 2020

# Recent Advances and Challenges in Facial Micro- Expression Analysis

## Data Annotation

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I am glad to this tutorial and present our micro-expression coding and sharing system.  
This work is done by MELAB, Institute of Psychology, Chinese Academy of Sciences.

Su-Jing Wang, MELAB, Institute of Psychology, Chinese Academy of Sciences

# ME annotation is very laborious and time-consuming

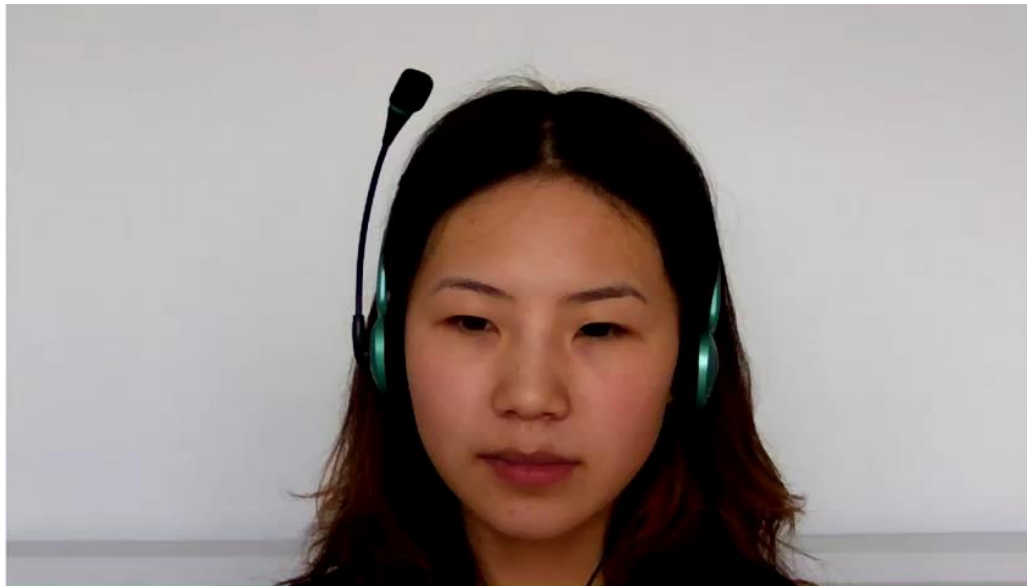
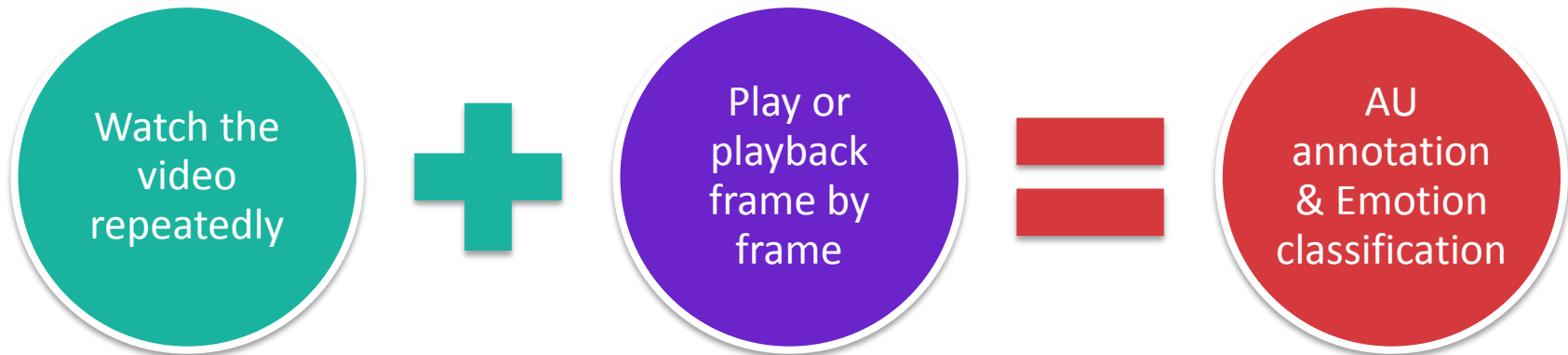
- Brief, subtle local facial movement  
 → hard to be detected in the video with naked human eyes.
- The coder needs to be professionally trained and the coding process requires at least two coders for a reliable result control.



ME annotation is very laborious and time-consuming because the expression is brief, subtle, and local. The coding process requires at least two coders for a reliable result control.



# ME annotation is very laborious and time-consuming



Belowing process for capturing the expression is the expression watch the movie repeatedly, and he or she need to Play or playback frame by frame, then we can get the AU annotation result and further the emotion classification for this micro-expression sequence.



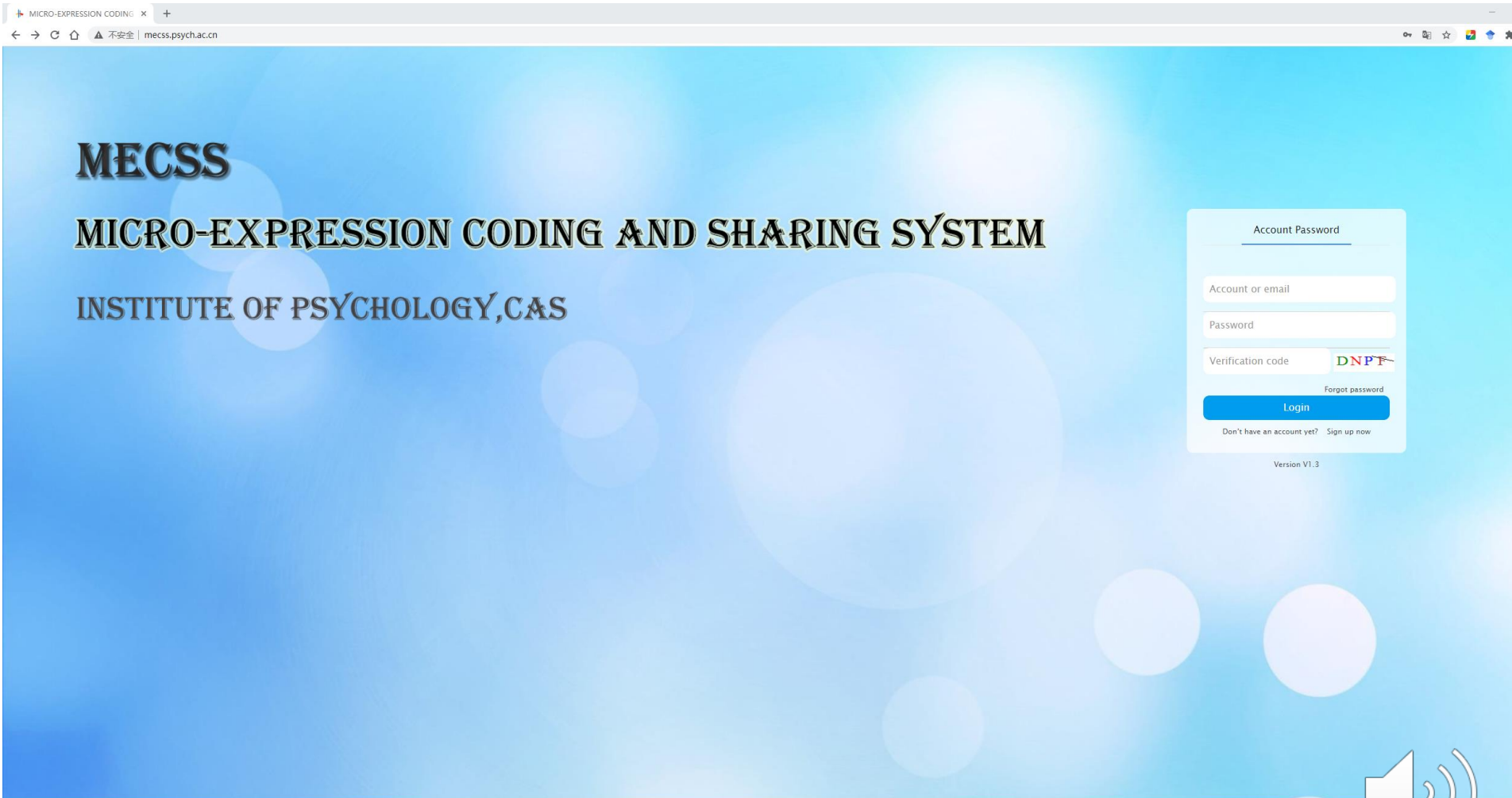
# Micro-expression coding and sharing system

## - Our goal

- Multiplayer online coding, which breaks through the limitations of time and space.
- Efficiently collect more accurately coded micro expression data:
  - **Scientific researchers**: be able to organize and code large amounts of micro-expression data
  - **Coding amateurs**: provide a platform for communication and cooperation

For coding and sharing micro-expression data, the efficient multiplayer coding and sharing system is needed. For scientific researchers, they are able to organize and code large amounts of micro-expression data.

# Micro-expression coding and sharing system (mecss.psych.ac.cn)




The screenshot shows a web browser window with the URL [mecss.psych.ac.cn](http://mecss.psych.ac.cn). The page has a blue background with large, faint circles. On the left, the text reads: **MECSS**, **MICRO-EXPRESSION CODING AND SHARING SYSTEM**, and **INSTITUTE OF PSYCHOLOGY, CAS**. On the right, there is a login form titled "Account Password". The form contains three input fields: "Account or email", "Password", and "Verification code". The "Verification code" field has a CAPTCHA image showing the letters "DNPT". Below the input fields is a blue "Login" button. Above the button is a link for "Forgot password". Below the button are two links: "Don't have an account yet?" and "Sign up now". At the bottom of the form, it says "Version V1.3".

**MECSS**  
**MICRO-EXPRESSION CODING AND SHARING SYSTEM**  
**INSTITUTE OF PSYCHOLOGY, CAS**

Account Password

Account or email

Password

Verification code 

[Forgot password](#)

[Login](#)

[Don't have an account yet?](#) [Sign up now](#)

Version V1.3

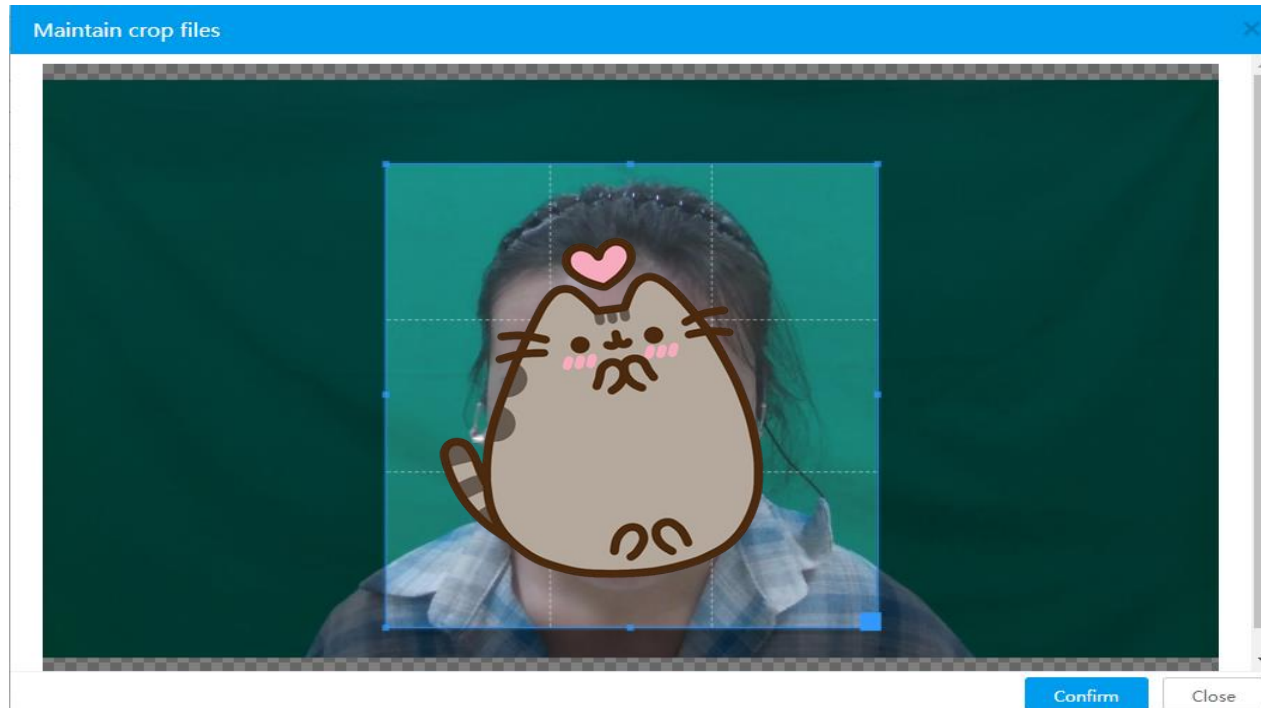
Here is the login page for our system.



# Micro-expression coding and sharing system (mecss.psych.ac.cn)

## - Three basic functions

- Upload and pre-process for video samples to be coded



Then the system will get three basic functions: cropping, line coding, and sharing.  
 First, the system will pre-process the uploaded video samples to be coded.



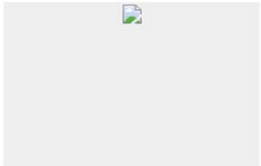





# Micro-expression coding and sharing system (mecss.psych.ac.cn)

## - Three basic functions

### ● Multiplayer online coding

Video area

✓ Institution   ✓ Subjects   ③ Video

 IPCAS_spNO.1_a 2019-07-25 14:26:20 <span>Labeled Unsubmitted</span> <span>Label</span>	 IPCAS_spNO.1_j 2019-07-25 15:47:47 <span>Labeled Unsubmitted</span> <span>Label</span>	 IPCAS_spNO.1_d 2019-07-25 14:54:19 <span>Labeled Unsubmitted</span> <span>Label</span>	 IPCAS_spNO.1_g 2019-07-25 15:17:42 <span>Labeled Unsubmitted</span> <span>Label</span>	 IPCAS_spNO.1_l 2019-07-25 16:08:41 <span>Labeled Unsubmitted</span> <span>Label</span>	 IPCAS_spNO.1_m 2019-07-25 16:17:55 <span>Labeled Unsubmitted</span> <span>Label</span>
--	---	---	---	---	---

The second function is the multiplayer online coding. Here are some videos sequences which have been uploaded on the website. The coding amateurs could choose one video and begin the coding process.


# Micro-expression coding and sharing system (mecss.psych.ac.cn)

## - Three basic functions

### ● Multiplayer online coding

Lable

Video operating area



0.0%

1.0

FPS: 30

Time: 00:00:00:01

Frame Number: 1

▶

◀

▶▶

Start frame

Peak frame

End frame

Shortcuts

Video annotation information

+Add

Delete

Submit

	StartFrame	PeakFrame	EndFrame	AU	Creator	AUCreat	F
1	351	358	366	45	李婧婷	李婧婷	0
2	510	514	525	45	李婧婷	李婧婷	0
3	779	782	787	45	李婧婷	李婧婷	0

Coding mode

Unmodifiable after submission

The code can be directly submitted to the system. The video is played on the left side of the coding page, and the coding result is displayed on the right side. The video is played on the left side of the coding page, and the coding result is displayed on the right side. The video is played on the left side of the coding page, and the coding result is displayed on the right side.




# Micro-expression coding and sharing system (mecss.psych.ac.cn)

## - Three basic functions

### ● Multiplayer online coding

Lable

Video operating area



0.0%

1.0

FPS: 30

Time: 00:00:00:01

Frame Number: 1

▶

⏮

⏭

Shortcuts

Video annotation information

follow

cancel

		StartFrame	PeakFrame	EndFrame	AU	Creator	AUCreat
1	✓	31	57	59	4	柯勇	柯勇
2	✓	41	57	59	15	柯勇	柯勇
3	✓	49	58	59	R10	柯勇	柯勇
4	✓	262	278	302	R10	柯勇	柯勇
5	✓	349	353	354	5	柯勇	柯勇
6	✓	590	609	618	10	柯勇	柯勇
7	✓	282	288	294	38	柯勇	柯勇
8	✓	351	358	366	45	李婧婷	李婧婷
9	✓	510	514	525	45	李婧婷	李婧婷
10	✓	779	782	787	45	李婧婷	李婧婷

After submission

And here is the coding interface after submission. the AU annotation by other coders are also listed at the right side.



# Micro-expression coding and sharing system (mecss.psych.ac.cn)

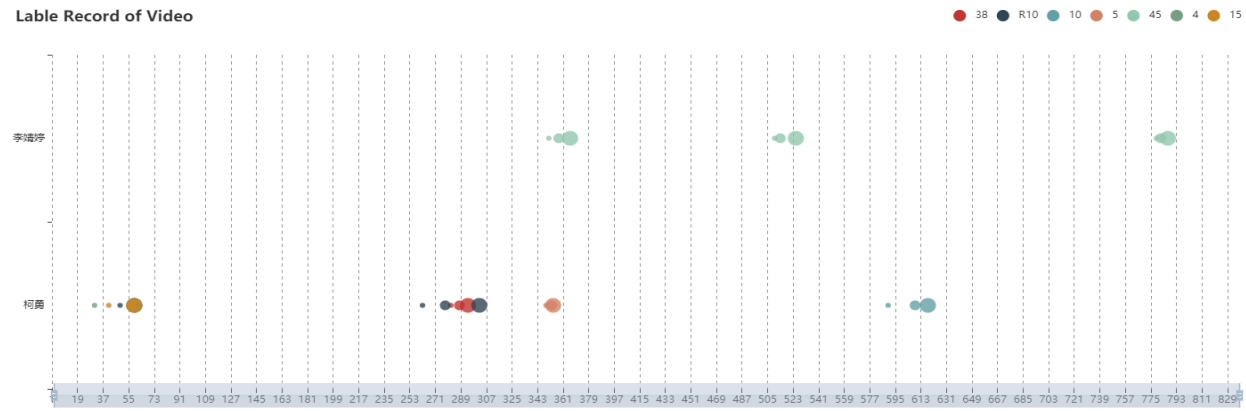
## - Three basic functions

### ● Coding result analysis and comparison

Video annotation information

StartFrame	PeakFrame	EndFrame	AU	Creator	AUCreat	Follow
31	57	59	4	柯勇	柯勇	0
41	57	59	15	柯勇	柯勇	0
49	58	59	R10	柯勇	柯勇	0
262	278	302	R10	柯勇	柯勇	0
349	353	354	5	柯勇	柯勇	0
590	609	618	10	柯勇	柯勇	0
282	288	294	38	柯勇	柯勇	0
351	358	366	45	李婧婷	李婧婷	0
510	514	525	45	李婧婷	李婧婷	0
779	782	787	45	李婧婷	李婧婷	0

Table Record of Video



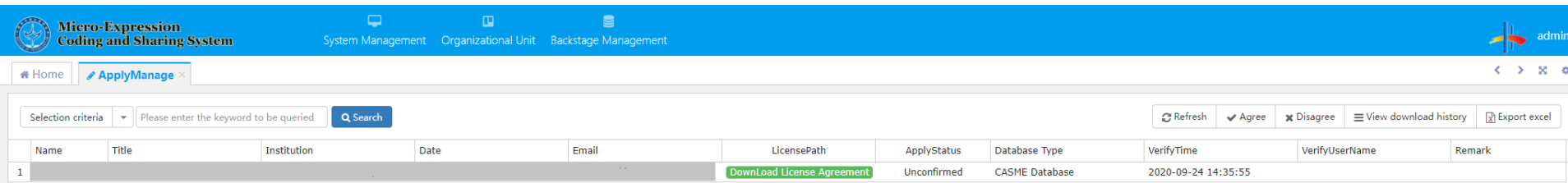
The bottom word is the main function for browsing or coding result analysis and comparison. The right figure shows the distribution of coded AUs in one video.



# Micro-expression coding and sharing system (mecss.psych.ac.cn)

## - Additional function

- Links to application forms of public CAS series micro-expression databases



Micro-Expression Coding and Sharing System

System Management Organizational Unit Backstage Management

Home ApplyManage

Selection criteria Please enter the keyword to be queried Search

Refresh Agree Disagree View download history Export excel

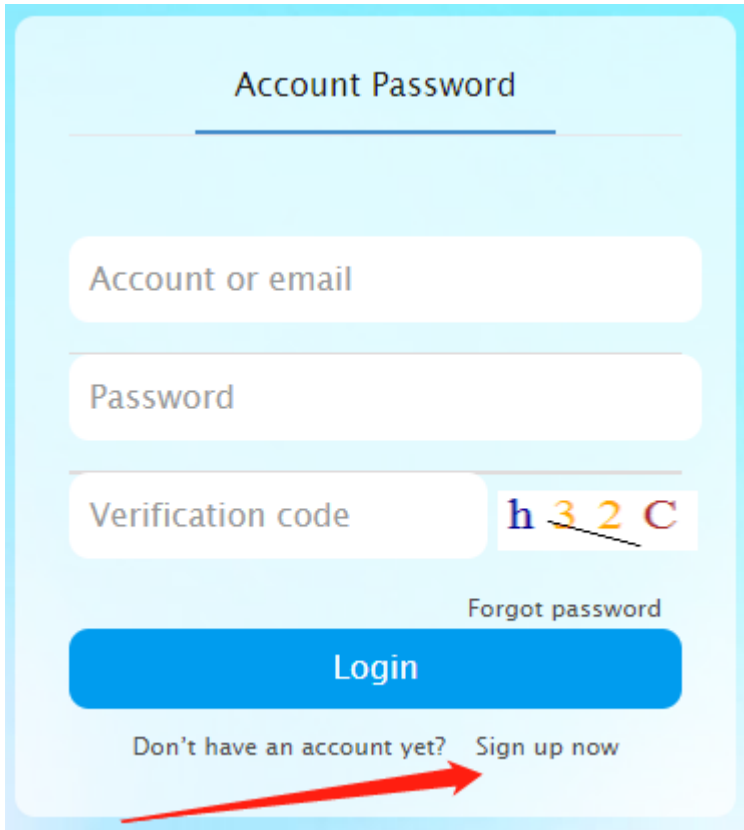
Name	Title	Institution	Date	Email	LicensePath	ApplyStatus	Database Type	VerifyTime	VerifyUserName	Remark
1					<a href="#">Download License Agreement</a>	Unconfirmed	CASME Database	2020-09-24 14:35:55		

Our system also provide Links to application forms of public CAS series micro-expression databases.



# Micro-expression coding and sharing system (mecss.psych.ac.cn)

## - How to sign up



or

- Contact us (lijt@psych.ac.cn) directly with following info:
  - Username
  - Code
  - Organization /institution
  - Role (Coder / Uploader)
  - Name
  - Email address

In the end, I would like to introduce the way to sign up to the website. You could click the sign up button on the login page directly, or you could contact us by email, with the following info.

Su-Jing Wang, MELAB, Institute of Psychology, Chinese Academy of Sciences



# Thanks for your attention!

Any questions?

