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**2021**

**Final Report of SEU CSE International Summer School Program**

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**Theme**

-  
**From perceptual understanding to intelligent cognition-Approaching a new generation of AI**

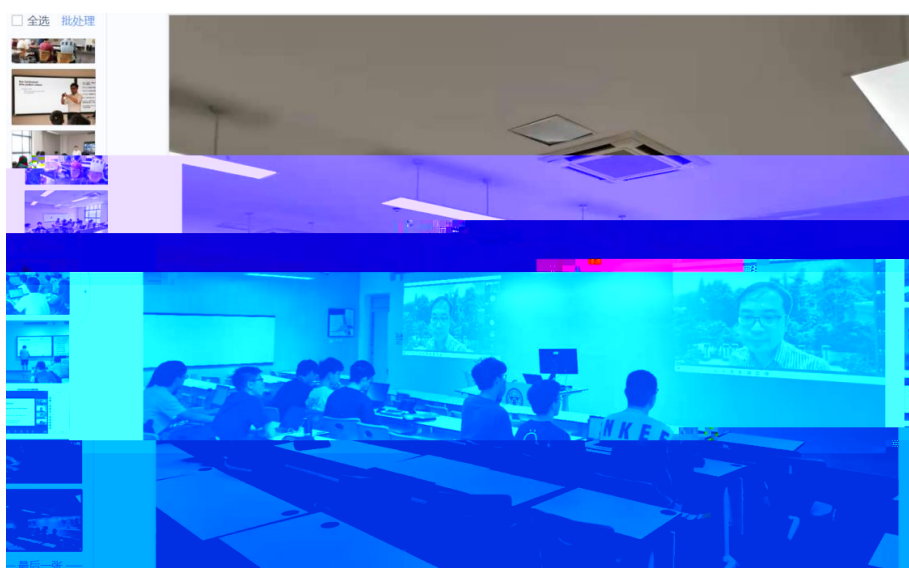
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Zoom 会议 | 你正在观看Ujwal Gadiraju的屏幕 | 查看选项

### WHAT IS CROWD COMPUTING?

**A computational paradigm that involves both machines and human intelligence**

**Humans**

- are active participants
- make choices that determine the input to, and therefore the output of a computation

**The output**

- is a joint computation between machine and human
- is richer than what either could produce alone

参与者 (24)

查找参会者

- YT Yutong Tian
- ZC Zhexin Chen
- Z zheyu
- ZW Zhun Wang (Jerry)
- ZX Zhuqing XU
- ZS Zian Song
- 语 嘉航 涂
- 林 林敬凯
- 吴 吴金浩
- 杨 杨捷
- 一鸣 冯
- 朱 朱宇飞

Zoom 会议底部控制栏: 解除静音, 停止视频, 参与者 (24), 聊天, 共享屏幕, 录制, 回应, 离开

## Conversational Interfaces

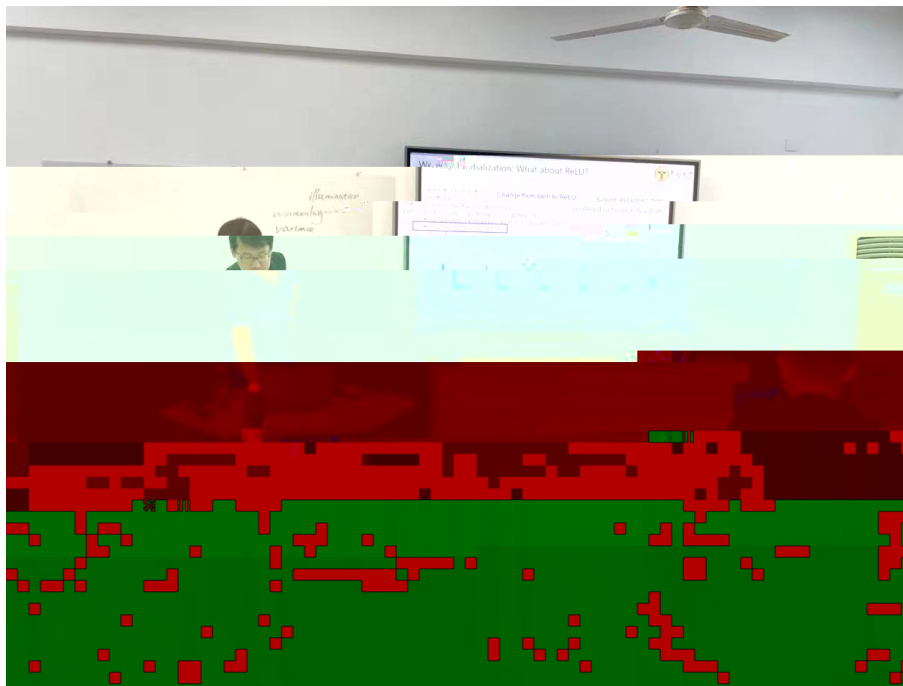
Ujwal Gadiraju

[@UJLAW](#)

HCI Course | Southeast University China | 28.07.2021

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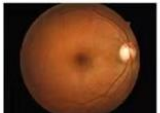
Courses	Presenters	Agenda




正在讲话: FuHz;

## Diabetic Retinopathy (DR)

Patient without DR

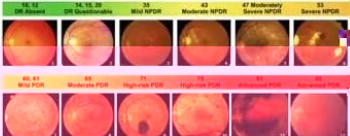


Patient with DR

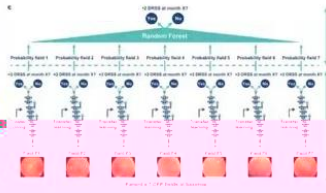


01 02 03 04 05 06 07 08 09 10 11 12

DR Absent DR Mild Nonproliferative DR Moderate Nonproliferative DR Severe Nonproliferative DR Proliferative DR



Random Forest



Source: Arcadu, NPJ digital medicine. 2019

FuHz

Joey周毅

S

ShiyuXia

J

JIAJUNSHI

HomL

Shelter

云飞

## Video Object Segmentation Techniques

### One-Shot VOS (OSVOS): first-frame fine-tuning

Pre-trained



Training



Finetuning



周天飞

Joey周毅

黄家乐

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Courses	Presenters	Agenda



### PCA Confidence

The diagram illustrates a family tree with the following relationships:

- Barack Sr. hasChild Barack
- Barack hasChild Malia
- Barack hasChild Thomas
- Barack Sr. citizenOf Kenya
- Barack citizenOf USA
- Malia citizenOf USA
- Thomas citizenOf France
- François citizenOf France

Annotations on the citizenOf relationships:

- Thomas citizenOf France: UNKNOWN
- Malia citizenOf USA: [TRUE]
- Barack citizenOf USA: [FALSE]

$$\text{conf}_{\text{PCA}}(B \Rightarrow r(x, y)) = \frac{|\text{support}(B \Rightarrow r(x, y))|}{\#\{x, y : \exists z_1, \dots, z_n, y' : B \wedge r(x, y)\}} \cdot \frac{1}{2}$$

$\text{citizenOf}(y, z), \text{hasChild}(y, x) \Rightarrow \text{citizenOf}(x, z)$

## Knowledge Graph Applications

### Knowledge Graph Construction

Yuan-Fang Li, Department of DS&AI, Monash University  
SEU International Summer School, 14/07/2021

A stylized, pixelated illustration of a landscape. It features a large, multi-story building on the left, a path leading towards a body of water on the right, and several trees in the middle ground. The scene is rendered in a low-resolution, pixelated style with a limited color palette.

SPARQL

## Example

Data

dbpedia:Mount_Baker	rdf:type	umbel-sc:Volcano;
	p:location	dbpedia:United_States.
dbpedia:United_States	rdfs:label	"United States"

- Where are all (known) volcanos located? (List the names of these locations)
- Blank nodes in SPARQL queries
  - As subject or object of triple patterns
  - Non-selectable variables

```
SELECT ?name WHERE {
```

OWL and Description Logics

## Logical Entailment in Knowledge Bases

- Let  $\mathcal{I}$  be an interpretation,  $\mathcal{T}$  a TBox,  $\mathcal{A}$  an ABox and  $\mathcal{K} = (\mathcal{T}, \mathcal{A})$  a knowledge base
- $\mathcal{I}$  is a model for  $\mathcal{K}$  if  $\mathcal{I} \models \mathcal{T}$  and  $\mathcal{I} \models \mathcal{A}$
- $\mathcal{K}_1$  entails  $\mathcal{K}_2$  if every model for  $\mathcal{K}_1$  is a model for  $\mathcal{K}_2$


2021 (20/48) G. Xiao Description Logics

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Courses	Presenters	Agenda
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Future Week (12/3): Urban Mobility Rhythm Measurement




Heterogeneous Modalities

- Aboveground
- Underground

Resources

Future Week (12/3): Urban Mobility Rhythm Measurement



RUTGERS

Urban Physical Systems for Society-Aware Mobility

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	<b>Courses</b>	<b>Presenters</b>	<b>Agenda</b>
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