


The background of the slide is a light gray gradient. It is decorated with numerous realistic water droplets of various sizes. Some droplets are large and prominent, while others are small and scattered. They are primarily located in the top-left and bottom-right corners, with a few smaller ones in the center and top-right areas. The droplets have highlights and shadows, giving them a three-dimensional appearance.

COMMUNICATION VIA ANIMATION OF AMERICAN SIGN LANGUAGE USING KINECT



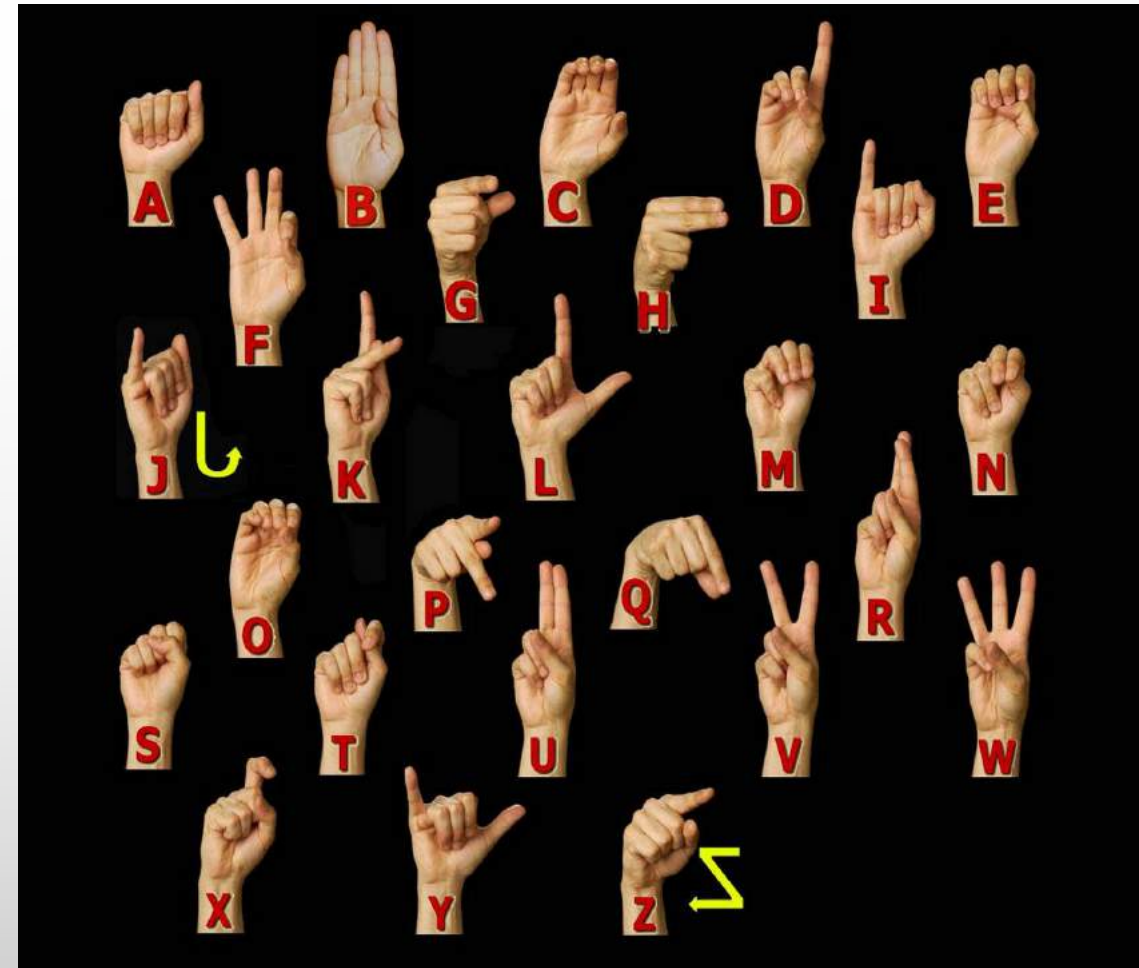
CONTENTS

- AIM
 - ABOUT AMERICAN SIGN LANGUAGE
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AIM

- TO CREATE A SOFTWARE THAT ENABLES COMMUNICATION USING SIGN LANGUAGE
- BETWEEN A NORMAL PERSON AND A PERSON WHO HAS CHALLENGES IN HEARING AND SPEAKING

AMERICAN SIGN LANGUAGE



IMPORTANCE

- SURVEY CONDUCTED BY GALLAUDET UNIVERSITY, WASHINGTON, DC
- 1 IN 20 AMERICANS ARE DEAF OR HARD OF HEARING
- HIGH POSSIBILITY OF KNOWING SOMEONE OR MEETING SOMEONE BY CHANCE
- WHAT HAPPENS WHEN THEY VIDEO CHAT? HOW TO COMMUNICATE?
- NEED A SYSTEM THAT CAN TRANSLATE SIGN LANGUAGES FOR EASY COMMUNICATION



MICROSOFT KINECT TO THE RESCUE!

- DETECTS BODY SKELETON AND VISUAL FEED IN DIFFERENT FORMS
 - CAN SENSE MOTION AND RECORD GESTURES
 - THUS, CAN BE USED TO EASE THE COMMUNICATION USING SIGN LANGUAGE
- 

PIPELINE

- RECORD AND TAG THE RECORDED GESTURES FOR CLASSIFICATION
- TRAIN THE CLASSIFIER USING ADABOOST ALGORITHM WITH SUFFICIENT TRAINING EXAMPLES FOR EACH GESTURE
- STORE GESTURES IN THE DATABASE WITH APPROPRIATE FORMAT CONVERSIONS SO AS TO FACILITATE THE GESTURE IDENTIFICATION PROCESS
- DISPLAY THE TRANSLATED TEXT

PIPELINE(CONTINUED)

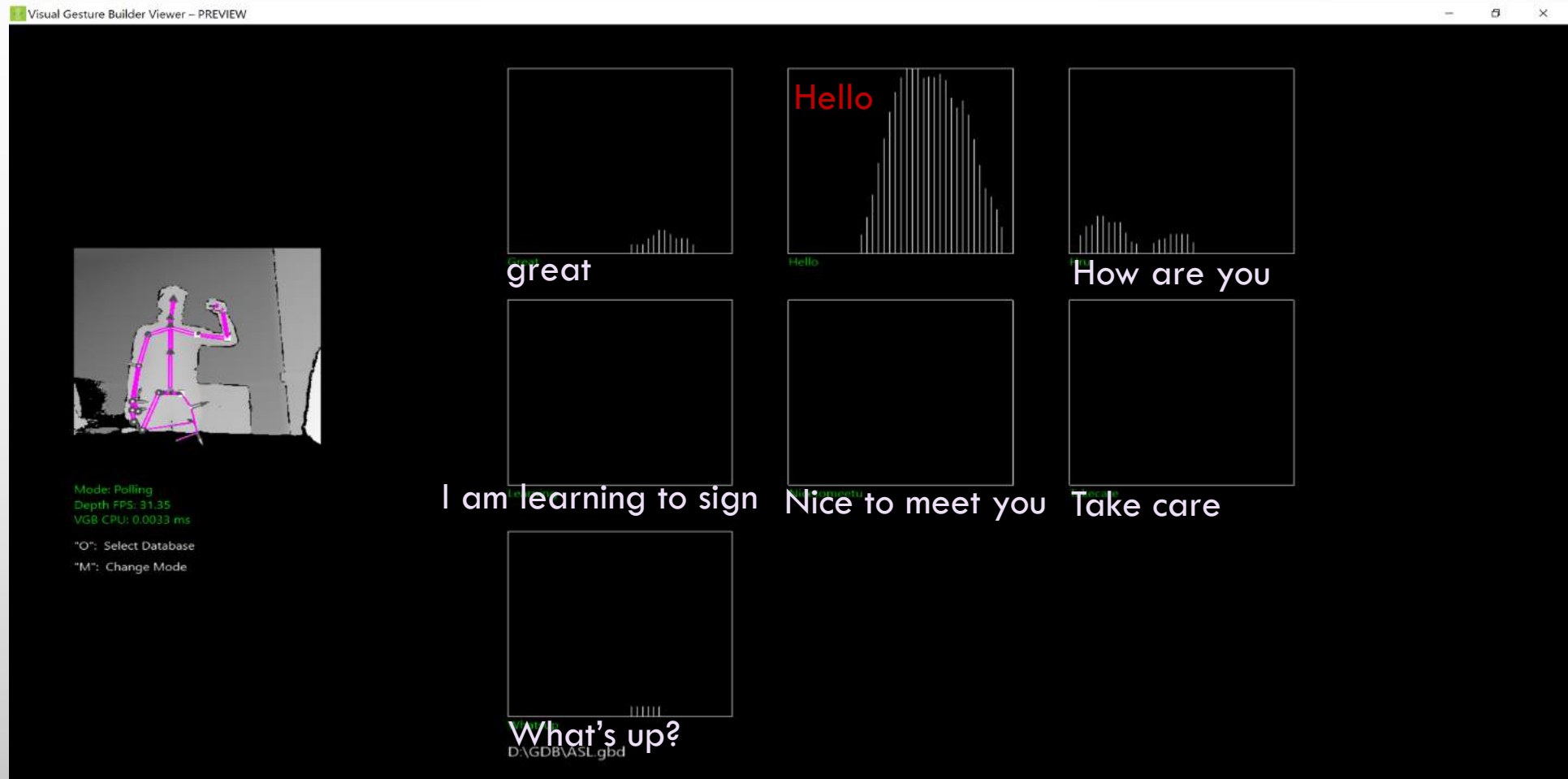
- GENERATE A DATABASE OF ANIMATED GESTURES PERFORMED BY A HUMAN RIG USING BLENDER
- GETTING THE TEXT INPUT AND FINDING THE SUITABLE RESPONSE
- DISPLAYING THE GESTURE CORRESPONDING TO THE RESPONSE

UI IDEA

- TWO UI – ONE FOR DEAF AND ONE FOR ORDINARY PERSON
- DEAF TO ME COMMUNICATION
- DETECT THAT DEAF PERSON MADE A GESTURE IN FRONT OF KINECT
- DISPLAY WHAT THE GESTURE MEANS IN FORM OF TEXT TO ME
- ME TO DEAF COMMUNICATION
- I TYPE THE RESPONSE
- NOW SHOW THE RESPONSE IN THE FORM OF AN ANIMATION TO THE DEAF PERSON

RESULTS

GESTURE RECOGNITION - HELLO

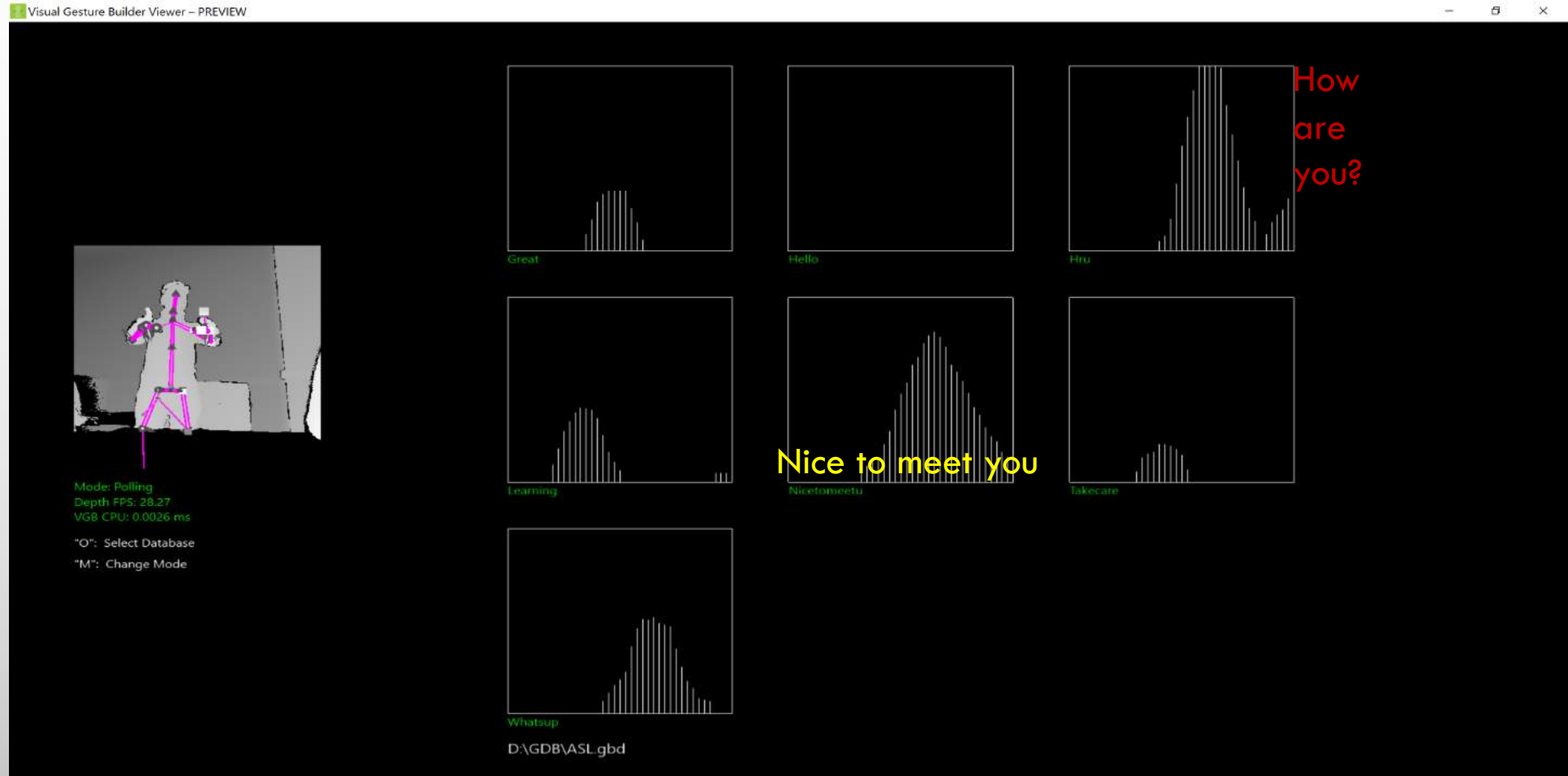


RESPONSE

HELLO (IN ASL)



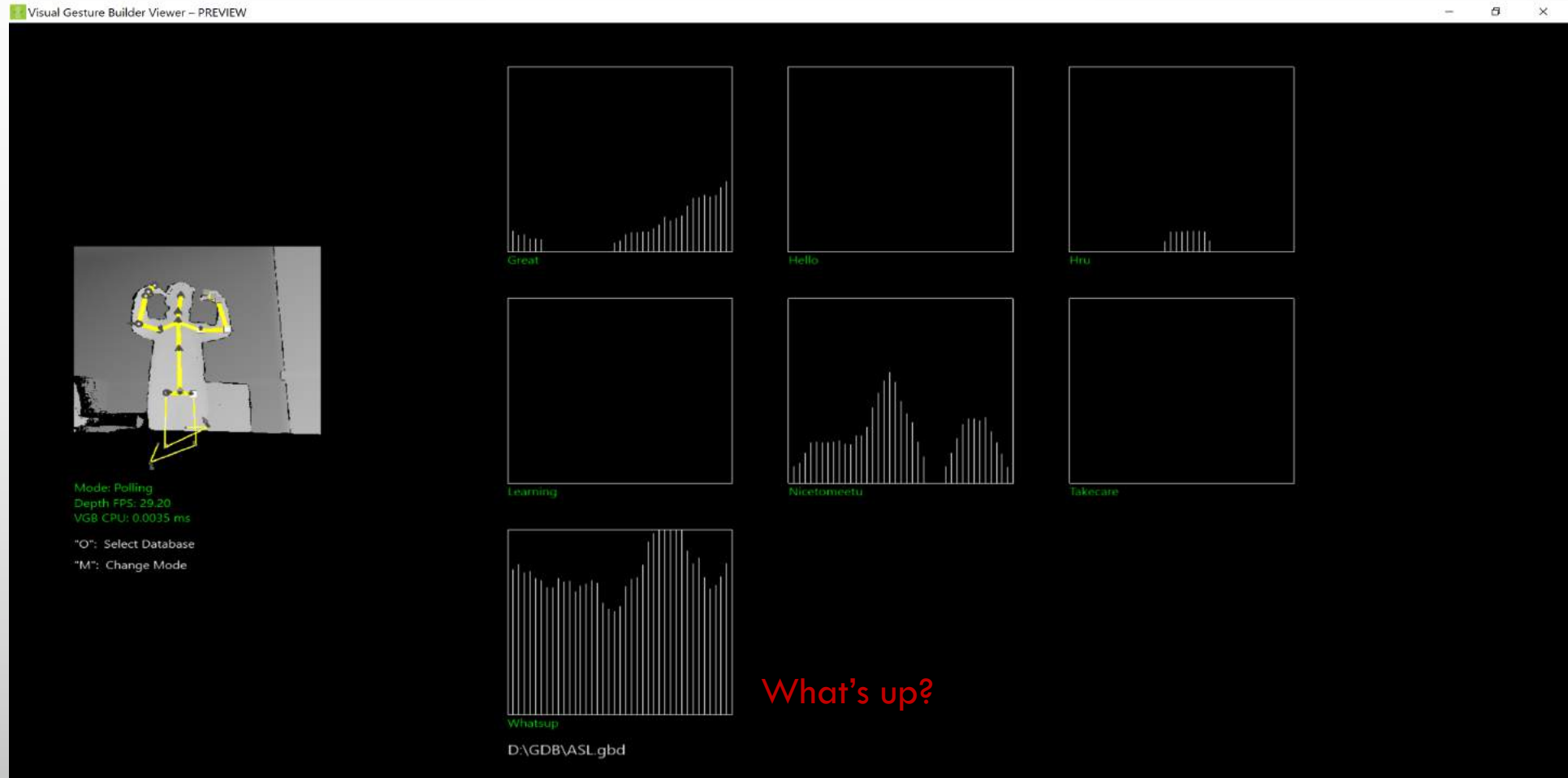
GESTURE RECOGNITION – HOW ARE YOU?



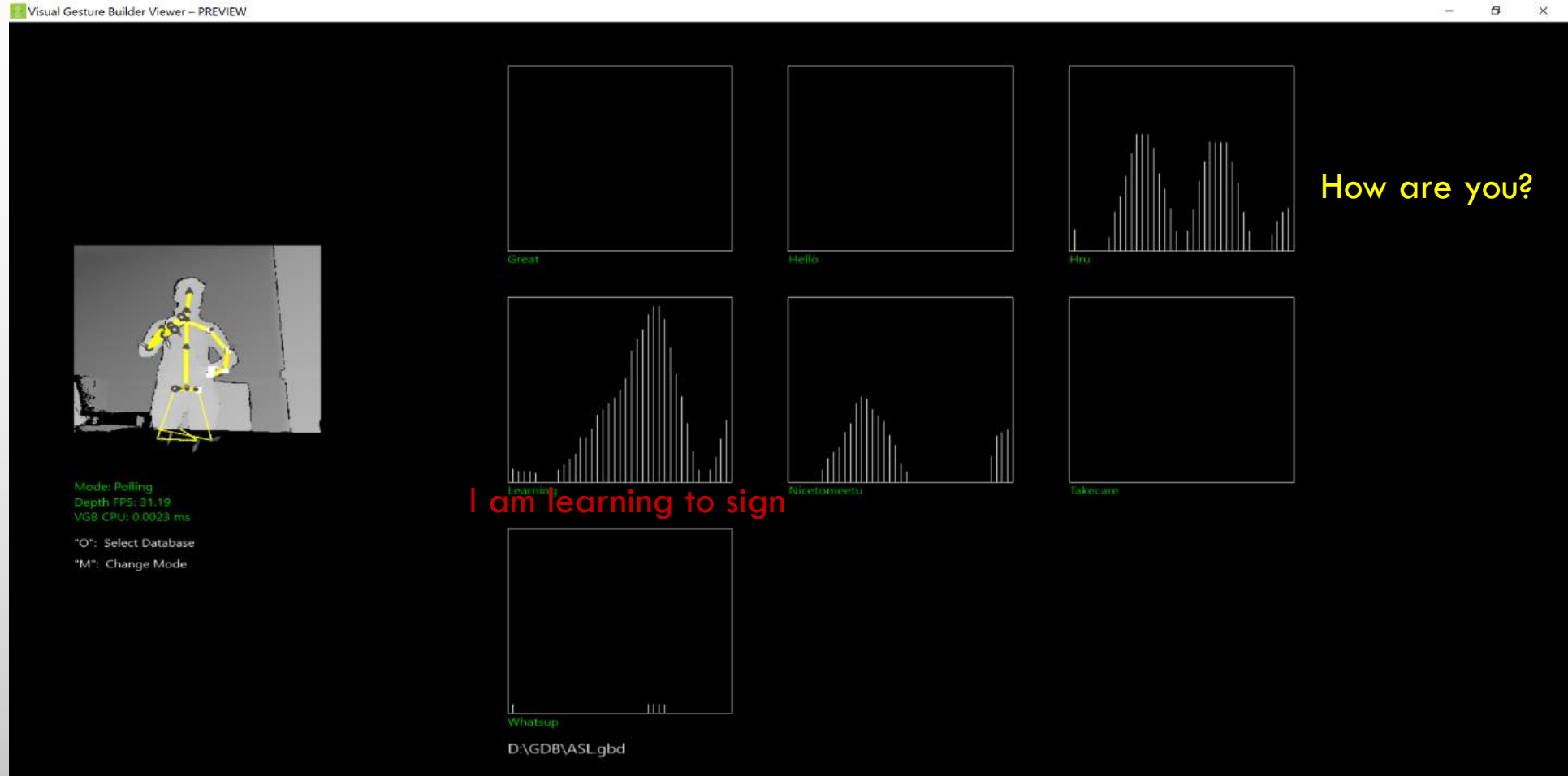
RESPONSE
GOOD (IN ASL)



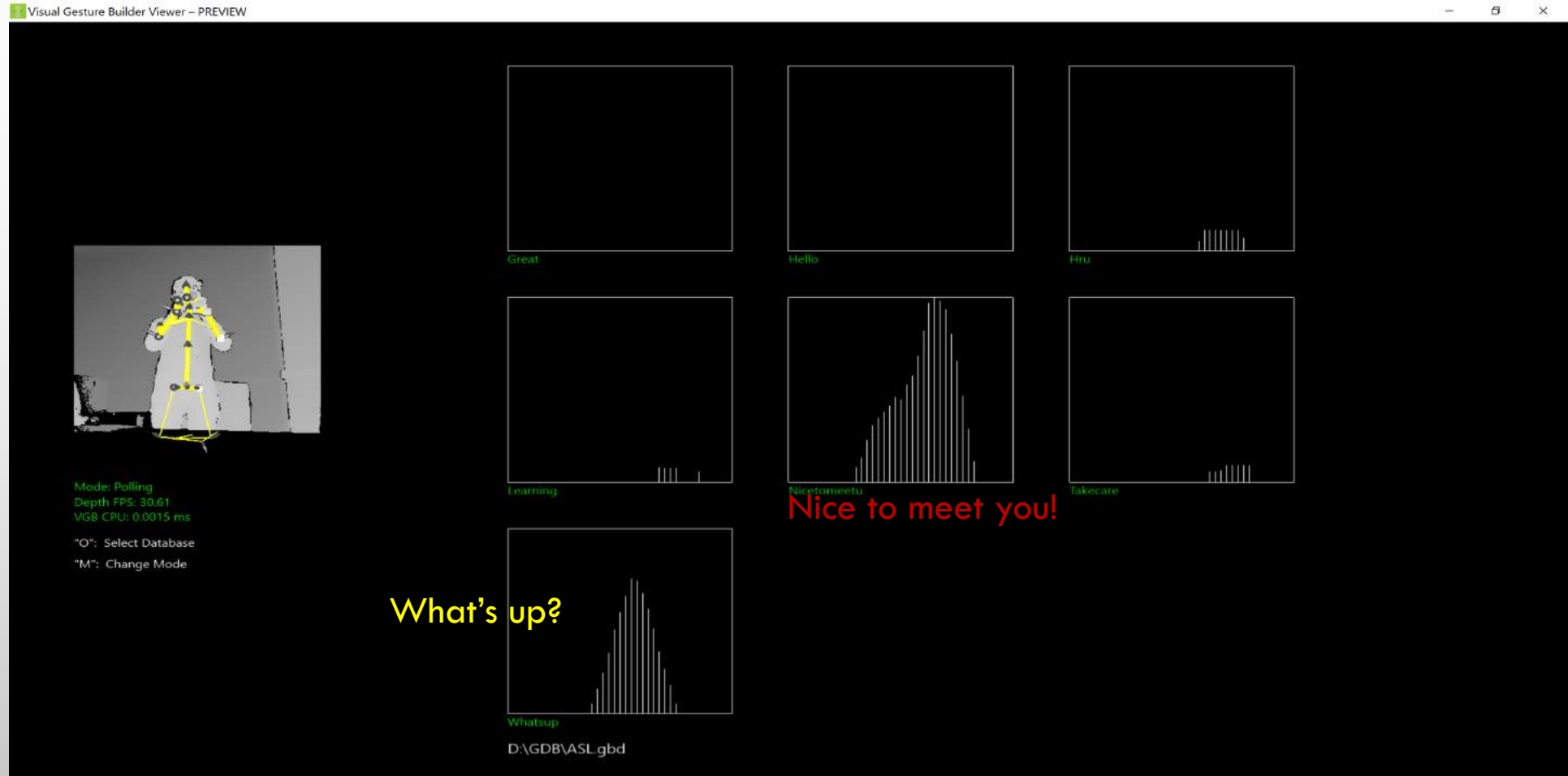
GESTURE RECOGNITION – WHAT’S UP?



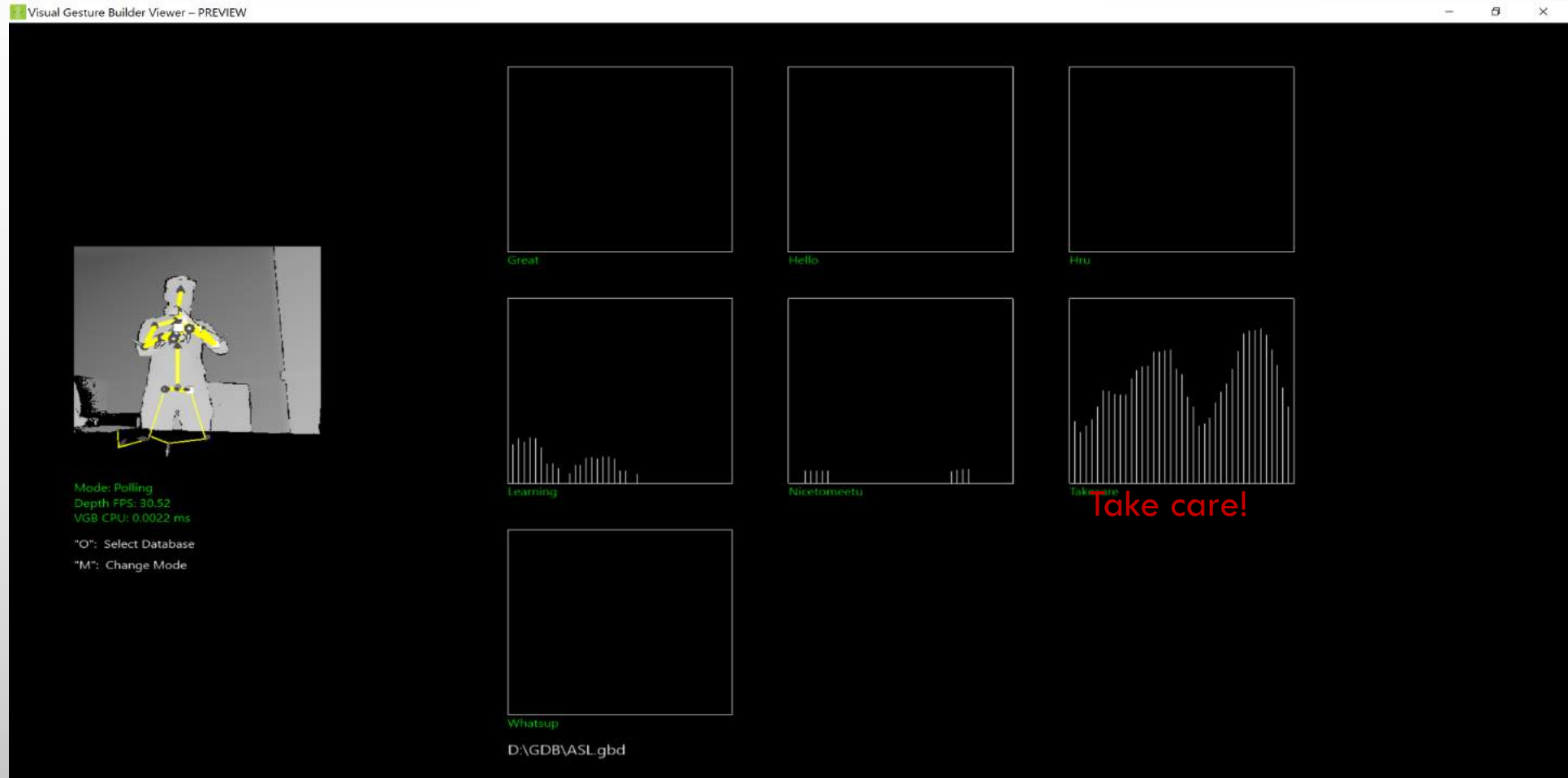
GESTURE RECOGNITION – I AM LEARNING TO SIGN



GESTURE RECOGNITION – NICE TO MEET YOU!



GESTURE RECOGNITION – TAKE CARE!



DEMO

The image features a light gray gradient background. In the top-left and bottom-right corners, there are clusters of realistic, three-dimensional water droplets of various sizes. The droplets have highlights and shadows, giving them a wet, glossy appearance. Centered on the page is the word "QUESTIONS?" in a bold, black, sans-serif font.

QUESTIONS?