

LAYS

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# PROJECT ABSTRACT

- MY SENIOR DESIGN PROJECT IS AN APPLICATION OF FACE MASK RECOGNITION. THIS IS AN APPLICATION TO CHECK IF ANYONE IN THE CROWD IS NOT WEARING A MASK. GENERALLY, MANUAL SUPERVISION IS USED TO CHECK WHETHER THE CROWD IS WEARING MASKS. MY SENIOR DESIGN USES DEEP LEARNING MODELS TO DETECT WHETHER THE CROWD IS WEARING A MASK. APPLICATION SCENARIOS INCLUDE PUBLIC TRANSPORTATION, FACTORY, HOSPITALS, SCHOOLS(UC) AND SHOPPING MALL(KROGER, CASIO). THIS PROJECT USES THE MOBILENETV2 ALGORITHM TO TRAIN THE TRAINING SET AND THEN USE VGG AND SSD ALGORITHM FOR TARGET DETECTION.

# USER STORIES AND DESIGN DIAGRAMS

- AS A CASHIER IN SUPERMARKET, I WANT THIS PROGRAM CAN BE REMINDED THE FIRST TIME SOMEONE WHO IS NOT WEARING A MASK APPEARS SO THAT THIS ALLOWS US TO TRY NOT TO WORK IN DANGER.
- AS A DOCTOR, I WANT THIS PROGRAM CAN HELP US REMIND PATIENTS WHO DON'T WANT TO WEAR A MASK SO THAT THE VIRUS WILL NOT SPREAD QUICKLY IN THE HOSPITAL.
- AS A POLICE, I WANT THIS PROGRAM CAN CONTACT US WHEN SOMEONE SHOWS UP WITHOUT A MASK SO THAT IT CAN HELP US BETTER MAINTAIN SOCIAL ORDER.
- AS A CUSTOMER WHO WILL PRESENT IN THE PUBLIC, I WANT THIS PROGRAM CAN TELL ME THE EXACT COORDINATES OF THE PERSON WHO IS NOT WEARING A MASK SO THAT I CAN TAKE THE INITIATIVE TO STAY AWAY FROM DANGER.

# MAJOR PROJECT CONSTRAINTS

## ECONOMIC COST

- THE WHOLE PROCESS OF DEVELOPING PROGRAMS WILL BE FREE. BUT IT WILL NEED A CAMERA TO ASSIST IF YOU WANT TO PUT IT ON THE MARKET AND THE COST OF THE CAMERA MAY CONSTRAIN MY PROJECT

## TIME

- NOT REALLY CONSTRICTED BY TIME

## SCOPE

- I AGREE ON THE SCOPE OF THE PROJECT AND I UNDERSTAND THE SCOPE OF MY CONTRIBUTION TO SUCCESSFUL PROJECT

## PROFESSIONAL/TECHNICAL EXPERTISE

- MY TEAM NEED DEEP LEARNING EXPERTISE, BUT I CAN SPEND SOME TIMES ON LEARING DEEP LEARNING KNOWELEDGE.

## ETHICAL/ LEGAL

- IF IT IS PUT ON THE MARKET, IT MAY INFRINGE ON PEOPLE'S PORTRAIT RIGHTS

## SECURITY

- NO, MY PROGRAM WON'T SAVE ANY PORTRAIT DATA, ONLY FOR DETECTION

## SOCIAL

- YES, MY PROGRAM CAN SERVE ALL WALKS OF LIFE. IT CAN HELP THE SOCIETY TO BE MORE STABLE AND REDUCE THE HARM OF THE COVID-19 TO THE SOCIETY.

## ENVIRONMENTAL

- THERE WILL BE NO ENVIRONMENTAL IMPACT

## DIVERSITY AND CULTURAL IMPACT

- NO DIVERSITY AND CULTURAL IMPACT, BUT SOME PEOPLE MAY NOT LIKE TO APPEAR UNDER THE CAMERA

## REVIEW OF PROJECT PROGRESS

I'M CURRENTLY TRYING TO LEARN AND  
UNDERSTAND THE DEEP LEARNING MODELS  
AND ALGORITHMS THAT WILL BE NEEDED IN  
MY PROJECT

- EXPECTED ACCOMPLISHMENTS FOR THE END OF THIS TERM

I HOPE I CAN COMPLETE ALL THE KNOWLEDGE RESERVES  
FOR THIS PROJECT BEFORE THE END OF THIS TERM.

# DIVISION OF WORK

I WILL DO ALL THE WORK BY MYSELF

# EXPECTED DEMO AT EXPO

- A PROGRAM THAT CAN DO FACE RECOGNITION

# THANK YOU