

Internship Evaluation & Reporting

Thank you for taking the time to complete this form, this evaluation will be used to assess the student's participation in the internship program.

Supervisors, using the form below please evaluate the student who interned with your organization, institution, or business. You can fill out this form electronically or you can fill it manually but eventually it must be signed and stamped from the company's side.

Please note that part I & III should be completed by the intern, part II should be completed by the direct supervisor in the company.

Part I. GENERAL INFORMATION - STUDENT'S INPUT

Student Info:

Student Name: Abd Rahman Abdel GUC Student ID No.: 43-17478
 Faculty: Engineering Major: MET/CS
 Student Mobile No.: 01020819930

Internship Info:

Company Name: GUC
 Core Industry/Business: Teaching Country: Egypt
 Supervisor Name: Dr Hassan Soubra Supervisor Job Title: Phd/Dr.
 Supervisor Tel. No.: _____ Supervisor Mobile No.: _____
 Supervisor E-mail: Hassan.Soubra@guc.edu.eg Training Department(s): SDC IAP/Gue
 Source of internships: (1) SCAD office (2) on my own (3) Referrals from GUC TA/Dr. (4) Recruitment website (5) others:
 Work Place: (1) Organization (2) Head Office (3) Branch (4) Factory (5) Site (6) Others:

Part II. EVALUATION AND COMMENTS - DIRECT SUPERVISOR'S INPUT

Period of Internship (dd/mm/yyyy) (dd/mm/yyyy)
 From: 19/02/2022 To: 20/04/2022

Internship nature (Enrollment Status)

☒ Part time Please specify, no. of Days per week: 5 hours per day: 4
☐ Full time Please specify, no. of Days per week: _____ hours per day: _____

Company Stamp

For SCAD internal use only

Serial no.	SCAD Comment	Academic Reviewer Comment	Academic Reviewer Signature
			<input type="checkbox"/> Accepted <input type="checkbox"/> Rejected Reason of rejection: Signature:

Please evaluate student's performance by marking the appropriate box:

For each of the following aspects, please mark the box in the rating scale that most closely corresponds to your evaluation of the profile of the student during the internship period. Please also feel free to offer comments and suggestions for changes and improvements in the space provided at the end of the form.

1=Unsatisfactory 2=Below Average 3=Satisfactory 4=Above Average 5=Excellent

	1	2	3	4	5	NA
Skills & Professional Attributes						
Ability to adapt to change						
Analytical skills			✓			
Collecting data/ research data skills				✓		
Creativity					✓	
Follow up skills					✓	
Interpersonal skills with peers, supervisors, and clients					✓	
Problem solving					✓	
Punctuality				✓		
Reporting skills					✓	
Responsibility and accountability					✓	
Stress handling					✓	
Taking initiatives			✓			
Teamwork				✓		
Time management				✓		
Other:				✓		
Technical Background						
Technical Knowledge			✓			
Compatibility of technical skills with the job				✓		
Other:						
Command of Languages						
Arabic					✓	
English					✓	
German						✓
Other:						

1=Unsatisfactory 2=Below Average 3=Satisfactory 4=Above Average 5=Excellent

Computer Programs & Databases	1	2	3	4	5	NA
Please use space below in specifying the program/software used during the internship and evaluate student's performance accordingly						
OpenCV					✓	
Python				✓		

Overall Evaluation of Student's performance and profile					
Unsatisfactory	Improvement needed	Meets expectations	Exceeds expectations	Exceptional	NA
		✓			

General Comments & Recommendations: (kindly mention intern potentials, areas of further development or technical constraints encountered during the internship period)

Abdel Rahman is a smart individual with the needed skills to do great. However he needs to learn to see a bigger picture and think higher of himself. He could create and do better than he thinks.

	Yes	No	Maybe
Do you think similar candidates would fit in the Organization culture and qualify for job needs?	✓	<input type="checkbox"/>	<input type="checkbox"/>

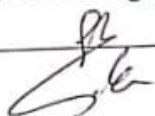
Student Signature:

Abdelrahman Abouzied

Date:

29/6/2022

Supervisor Signature:



Date:

29/6/2022

Part III. INTERNSHIP REPORT - STUDENT'S INPUT

- This report has to be prepared by the student, it must be prepared and written in a computerized format, submitting the report in hand written format will not be accepted.
- Kindly refer to the Internship Report writing Guidelines on the GUC intranet - SCAD office folder.
- This report will be reviewed and evaluated from internal faculty members.

Internship Title: Obstacle Detection and avoidance using Stereo vision Camera
Company / Organization Name: GUC

Introduction: Bikes have been the go to solution for transportation when it comes to crowded cities such as Cairo. Not only it is a one of few sources of physical activities that a person can perform in a typical nine to five office work day. So the idea of having an autonomous system installed on a bikes becomes more demanding since it will help in saving time in parking the bike in calling it from it's parking space using a phone and also assist the rider and make sudden maneuvers in dangerous situation is a very important aspect. So We devolved an obstacle detection and avoidance system that utilizes a stereo camera to navigate obstacle crowded environment without any human intervention.

Company / Organization Description: German University in Cairo is non profit educational organization that was founded in 2002 in New Cairo. German university in Cairo offers more that 70 study programs leading to B.Sc ,M.sc and Ph.D . The language of instruction is English. The study programs are designed according to German standards and are accredited in Egypt and Germany. GUC is located in the Southeast of Cairo. The campus of 577.000 m² includes various sports facilities, an industry park, a solar park as well as state-of-the-art laboratories for the integration of education, research and application. GUC also operates a guesthouse in ULM and a campus in Berlin as well as multiple student support offices in Germany with the aim of fostering the mobility of students, researchers and instructors to Germany.

Internship Performed Tasks: The internship was manly divided into two tasks ; a hardware task and a software task. In the software task I developed an obstacle detection system using a stereo camera , first the 3D point cloud were retrieved from the camera sensor where every point is represented by (x,y,z) component , then the view was flipped from a front view to a top view by switching the y and z axis so the retrieved point cloud appeared as if we were looking from above , then data was segmented along the y axis which represents the height to remove the noise in the point cloud that is introduced by the ground , all left is the present obstacles. Then I developed a best route finder algorithm which is a variant of A* with cost function as euclidean distance .

Moving o the the hardware part we used a 12V battery to power the whole system and a step down converter to reduce the output volt to 5 volt which is the right amount for the used impeded computer which calculate the angle of tuning and sends it an arduino board which sends a signal to the motor to move accordingly.

Internship Evaluation: I learned a lot about hardware in the since of how to debug a hardware failure which is totally different from the software bugs in the since of the circuit itself might be corrupted or other sources of failure other than the main implementation of the system itself since we had to deal with an actual system in an actual bike . I also enhanced my problem solving skills since the implementation of A* was a trivial task. The internship in fact met my expectations as it was more of a hands on working on a physical system rather than writes lines of code without seeing a touchable output. This internship will have a great influence on my future since it shifted my thinking from only working on software projects to working on hybrid systems which involves working on software as well as hardware . It also made me aware of the importance of using bikes and the great impacts that it has on the users health and the environment as well so that will defiantly be in my mind when pursuing a career in software engineering. We had a course on computer vision which tackles the main concepts I used for implementing the detection system and programming in general is one the core concepts we learn in MET.

Conclusion: Bikes are one the most important transportation means used by humans , in this internship we developed a systems that takes the experience of riding a bike to different level by introducing Autonomy to the system which greatly help in saving time for storing or parking and retrieving the bike as well as it helps the rider by makes a fast and write decisions when facing an obstacle for example if the rider were not paying attention. In This experience I got in touch with the industry of autonomous vehicles and had a glimpse of what will the future look like. I also had a great experience working with deeply knowledgeable mentor who helped me a lot during this internship.



Please rate your satisfaction with the internship experience.

☒ Very satisfied ☐ Somehow satisfied ☐ Neutral ☐ Somehow dissatisfied ☐ Very dissatisfied

Would you recommend this internship to other colleagues?

☒ Yes ☐ No ☐ Maybe

References: (If any external sources are used, provide references for any information quoted)

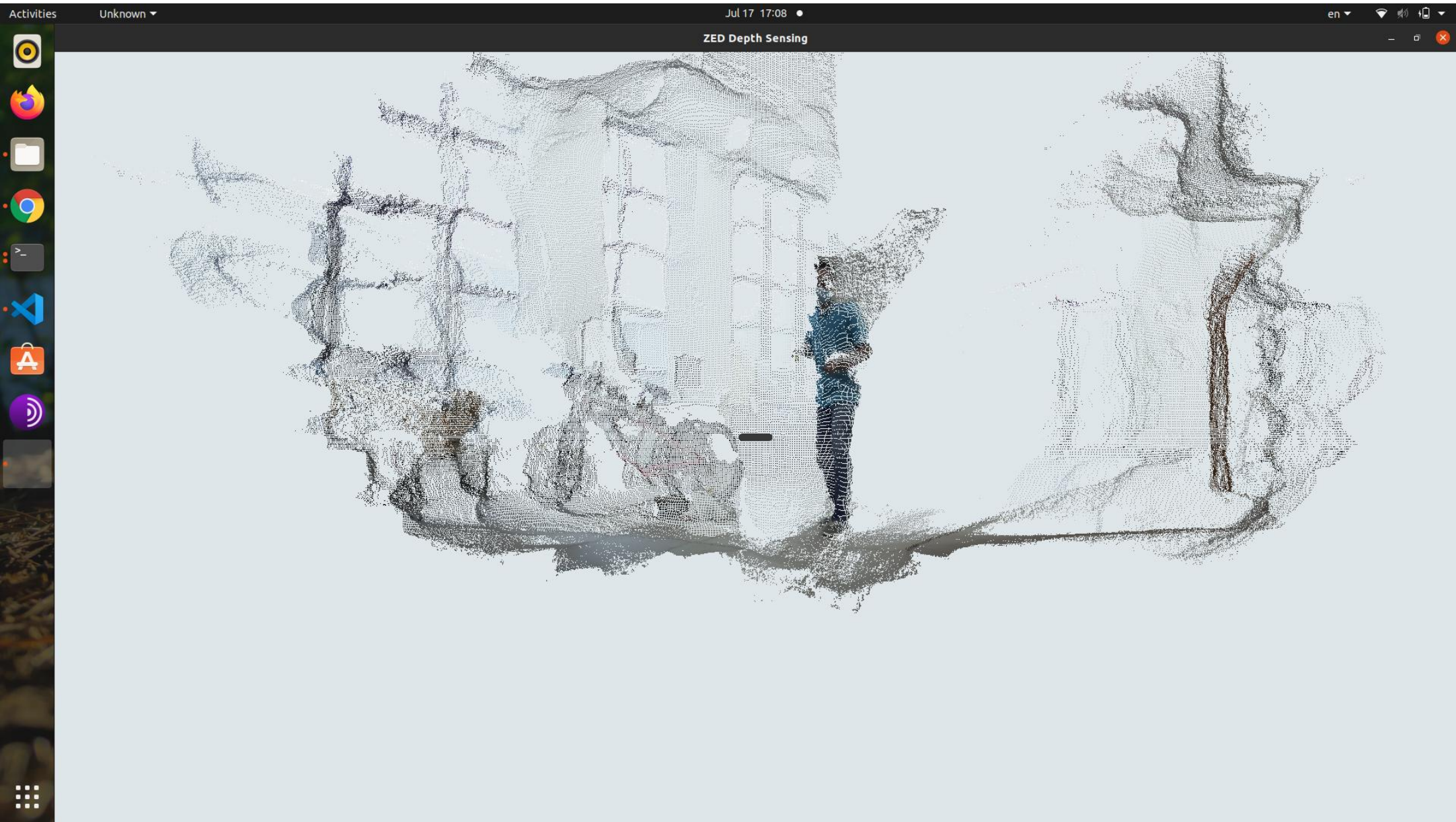
Appendices: (Upon availability, charts, pictures, etc.)

Disclosure / Confidentiality Agreement

This agreement is to acknowledge that the information provided by any company / organization during the internship is unique to this business and confidential.

Therefore, anyone reading this agreement agrees not to disclose any of the information provided during the internship without notifying & taking the employer's / supervisor's approval.





Activities Google Chrome Jul 18 09:33

Inbox - Outlook Web App x Home - Canva x presentation - Presentati x Online Video Cutter - Cut x www.google.com x

online-video-cutter.com

Contours

3.6m 4.0m 2.6m

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as np
cv
oCapture(4)
codec and create VideoWriter objec
ideoWriter_fourcc(*'XVID')
oWriter('output.mp4', fourcc, 20.0
pened()):
e = cap.read()
t:
("Can't receive frame (stream end?
cv.flip(frame, 0)
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(frame)
r('frame', frame)
tKey(1) == ord('q')):
anything if job is finished
Windows()
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distance = 3.0144319531215165 angle = - 27.245087842520732
distance = 2.933734821008879 angle = - 26.739732890466573
distance = 2.9882436312991616 angle = - 27.937142826538604
distance = 3.0144319531215165 angle = - 27.245087842520732
distance = 2.951948509036023 angle = - 25.696999727332447
distance = 3.007191380674 angle = - 28.610459665965216
distance = 3.023640190234281 angle = - 27.58202920779716
distance = 3.0144319531215165 angle = - 27.245087842520732
distance = 3.0059274775017446 angle = - 27.758540601060023
distance = 2.9880428377116686 angle = - 25.36441719555295
distance = 2.934211989614929 angle = - 27.613027823084476
distance = 3.0075238984919137 angle = - 24.349355340488767
distance = 2.99666481275434 angle = - 25.709953780811265
distance = 3.0321609455963907 angle = - 26.227026901140448
distance = 2.9963310898497184 angle = - 26.56505117707799
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distance = 2.9875073221667594 angle = - 27.07967008819517
distance = 3.0053951487283666 angle = - 26.05349531049095
distance = 3.032754523531372 angle = - 25.382120591881716
distance = 3.0909545451203257 angle = - 29.882832345412833
distance = 2.8533489096148053 angle = - 27.103867074960753
distance = 3.035852433831394 angle = - 31.805328924996953

frame

python3

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Keyboard
abdelrah
OpenCV:
OpenCV:

and format 'mp4 / MP4 (MPEG-4 Part 14)'

Ln 13, Col 29 Spaces: 4 UTF-8 LF Python kate: ready

