

American International University-Bangladesh (AIUB) Faculty of Science and Technology

Internship Affiliation Report On
Research Assistant at
American International University-Bangladesh

An Internship Report Presented to the OFFICE OF PLACEMENT and DEPARTMENT OF COMPUTER SCIENCE

In Partial Fulfillment of the Requirements for the Degree Bachelor of Science in Computer Science and Engineering

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Submitted by

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LETTER OF SUBMITTAL

April 28, 2024

Methila Farzana Woishe

Lecturer, Faculty

Department of Computer Science

Faculty of Science & Technology

American International University-Bangladesh

Subject: Internship Affiliation Report on Internship at American International University-Bangladesh

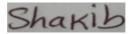
Dear Mam,

It gives me great pleasure to present my internship report for the "RESEARCH ASSISTANT" (RA) position in the AIUB research group, "Computer Vision and Bio-Robotics". This report's foundation is the information gathered from the internship.

I tried to include everything I encountered while working as an intern at the "Faculty of Science and Technology Department of AIUB" in my report. Under the direction of Dr. Debajyoti Karmaker (Associate Professor at AIUB FST department), I was chosen as a "Research Assistant". At work, I initially familiarize myself with the problems before looking for effective solutions, which enables me to delve further into the data annotation. Along with supporting the need, I performed data annotation tasks such as labeling images, categorizing text or tagging data points in accordance with project guidelines. I also conducted quality checks to identify and rectify errors or inconsistencies in documentation and annotations.

I would like to thank my academic internship supervisor Methila Farzana Woishe mam as well as my industrial internship supervisor Dr. Debajyoti Karmaker sir and all the officers who helped me to understand problems, solve them and improve myself.

Sincerely,



Sajjad Hossain Shakib

20-43842-2

Faculty of Science & Technology

American International University-Bangladesh

LETTER OF ENDORSEMENT

The Internship Affiliation Report entitled "Research Assistant at American International University-Bangladesh", has been submitted to the Office of Placement and Department of Computer Science in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science & Technology by Sajjad Hossain Shakib (20-43842-2). This report is presented to the Internship Defense Committee for evaluation and has been accepted.

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Leboygeti

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Department of Computer Science
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Dr. Md. Abdullah-Al-Jubair

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ACKNOWLEDGEMENT

First and foremost, I want to thank Almighty Allah for his mercy in allowing me to complete my internship report on time.

I would want to express my gratitude to the Faculty of Science & Technology for maintaining internship credit in the graduating program's curriculum and giving me the chance to explore duties that are focused on the corporate world and a line of work that interests me. I also appreciate AIUB's Faculty of Science & Technology, Office of Placement & Alumni, for setting up a chance for me to select and finish an internship at a company of my choosing.

I want to express my gratitude to my organization's supervisor, **Dr. Debajyoti Karmaker**, associate professor for the AIUB Faculty of Science and Technology (FST) Department. I would also like to thank **Md. Mahmudur Rahman** sir for helping me proceed with the new tasks that have been assigned and providing me with instructions that are needed in the absence of my supervisor. They also inspired me to complete my internship at the AIUB Research team successfully.

Lastly, I would like to thank **Methila Farzana Woishe**, Lecturer, for his support despite his busy schedule and giving an opportunity to take part in this internship program. I would like to express my gratitude and appreciation to every member of the research team who has offered me counsel and supported me with their hands and pens.

Industry Supervisor Evaluations

INTERN-CO2: Perform as an effective individual in multi-disciplinary settings in solving computer science and engineering problems.

Assessment Attribute/Criteria	Missing (0)	Inadequate (1)	Satisfactory (2)	Excellent (3)	Points (0-3)
Critical Thinking	Recalls only functional or procedural knowledge of existing solutions	Explains the existing solutions and applies in multidisciplinary case settings	Analyses and Evaluates Conditional/ Declarative knowledge with elements in multi- disciplinary settings	Understands the concepts very well and creates new knowledge in multi-disciplinary settings	
Focus on the Task (Self-directed)	Never stays focused on the task and what needs to be done	Sometime stays focused on the task and what needs to be done	Most of the time stays focused on the task and what needs to be done	Consistently stays focused on the task and what needs to be done	
Reflection	Rarely acknowledges feedback and doesn't apply strategies for making improvements	Acknowledges feedback but doesn't apply strategies for making improvements	Acknowledges feedback and applies strategies for making improvements	Acknowledges and analyze feedback and applies effective strategies for making improvements	
Quality of the Work	Provides work that is not up to any quality standard and expectations.	Provides work that usually needs to be checked/redon e by others to ensure quality	Provide high quality work. Some small errors that do not interfere with the meaning	Provides work of the highest quality. Work is checked and corrected for mistakes, and shows high level of effort	

Dr. Debajyoti Karmaker

Internship Supervisor (Industry) Associate Professor Faculty of Science and Technology American International University-Bangladesh

INTERN-CO3: Perform as an effective team member or leader in diverse team settings and solving multi-disciplinary problems in computer science and engineering domain.

Assessment Attribute/Criteria	Missing (0)	Inadequate (1)	Satisfactory (2)	Excellent (3)	Points (0-3)
Taking responsibility	Does not perform assigned tasks; often misses meetings and, when present, does not have anything constructive to say; relies on others to do the work;	Partially performs all assigned tasks; attends meetings irregularly and occasionally participates and hence not reliable;	Performs all assigned tasks; attends meetings regularly and usually participates effectively. generally reliable;	Performs all tasks very effectively; attends all meetings and participates enthusiastically; very reliable.	
Contributions	Never provides useful ideas when participating in a group discussion	Rarely provides useful ideas when participating in a group discussion	Sometimes provides useful ideas when participating in a group discussion	Routinely provides useful ideas when participating in a group discussion	
Collaboration and Ability to Compromise	Not cooperative, unable to compromise and disrupts the team process.	Sometimes cooperative, and rarely displays positive attitude.	Usually cooperative, able to compromise and generally displays positive attitude.	Always cooperative. Willingness to compromise. Always display positive attitude.	
Valuing other team members (Working with others)	Often argues with teammates; doesn't let anyone else talk; occasional personally attacks and "put-downs"; wants to have things done his way and does not listen to alternate approaches;	Seldom listens to others' points of view; occasionally behaves in an oppressive manner; tries to force own ideologies on other;	Generally, listens to others' points of view; always uses appropriate and respectful language; tries to make a definite effort to understand others' ideas;	Always listens to others and their ideas; helps them develop their ideas while giving them full credit; always helps the team reach a fair decision.	

Dr. Debajyoti Karmaker

Internship Supervisor (Industry)
Associate Professor
Faculty of Science and Technology
American International University-Bangladesh

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Table 1: AIUB Offer Services

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List of Abbreviations and Symbols

Here, I mention all the abbreviations and the different symbols that are used in this document.

AIUB American International University-Bangladesh

RA Research Assistant

CS Computer Science

CSE Computer Science and Engineering

FST Faculty of Science and Technology

SQA Software Quality Assurance

UGC University Grants Commission

1. INTRODUCTION

1.1. Rationale:

This report on internship has significance from a variety of aspects. The report serves as proof of my efforts and the growth in my professional experience. I'll focus primarily on my workstation and the variety of skills I've acquired. I'm quite motivated to complete this report so I can build my CV with detailed, extensive information. The possibility that an understudy will take on more full-time work after graduation increases dramatically with entry-level positions. I am confident that this report will increase my chances of getting my dream job. It is a summary of my correspondence skills as a member of the testing and improvement team. This report will reflect my overall effort and performance throughout the Internship. In addition, I have taken my internship authoritatively in the present semester in AIUB.

1.2.Background:

My internship was at the American International University-Bangladesh (AIUB). It was founded in 1994 and is currently one of Bangladesh's most renowned and esteemed private universities. The University complies with all regulations set forth by the University Grants Commission (UGC), a government body in charge of overseeing all academic standards and procedures at all Bangladeshi educational institutions. 36911 students had graduated from AIUB as of the 21st convocation [1].

AIUB offers a wide range of services, including:

Number	Services
1	Students Services by OSA, OPA, OP, OGC etc.
2	IT Support
3	Office of Sports
4	Research and Development
5	Students Portal by VUES.

Table1: AIUB Offers Services

One of Bangladesh's best universities, AIUB is ranked highly. The AIUB has several well-known corporations as key partners, including Oracle Academy, Cisco, Juniper Networks, and many others

[2]. Several reputable universities, including Monash University, University of Trento, and others, are frequently academic partners with AIUB.

American International University-Bangladesh (AIUB) is dedicated to offering top-notch computer-based academic programs that are considerate of contemporary issues to create a community of highly trained persons with a strong sense of ethical ideals. It seeks to create highly skilled leaders who are equipped to meet challenges and prevail in a cutthroat global marketplace in a range of fields, including the arts, business, science, and social science. Quality must be preserved in accordance with the recognized regional, national, and international standards of excellence and quality, including those provided by professional bodies and organizations [3]. The American International University-Bangladesh is committed to implementing the initiatives, projects, and initiatives linked to the sustained delivery of quality management operational systems. The students are the university's top priority since they are treated as valued customers who require the finest attention and care to fulfil their basic needs and thrive in their future employment. As a result of this commitment, the university will make every effort to coordinate its operations by cooperating, collaborating, and consulting with all university units and constituent parts [4].





Figure 1: Organization and Logo

1.3. Objectives

The internship program has several objectives. Which includes formalizing me with a real professional situation and helping me learn how bookish concepts are used in real time. Therefore, from the beginning of the study, I tried my best to conduct my internship with a view to achieving some specific objectives. The objectives of the study are mentioned below:

1. To gain knowledge about annotation tasks such as labeling images, categorizing text or tagging datapoints.

- 2. To know about review and edit documentation and annotations to ensure adherence to established standards and guidelines.
- 3. To learn about different types of annotation process and tools.
- 4. To acquire knowledge of professional work experience.

2. INTERNSHIP ACTIVITIES

2.1. Work-related

The interns at AIUB research team are valued team members and employees of the organization. I have been supervised by Dr, Debajyoti Karmaker, associate professor for 4 months of my internship period. I have been trained in using CVAT for data annotation. My main responsibility was to collect data from my supervisor and follow the instructions of data annotation. From the start of my internship to 1.5 months we worked on CVAT where we tracked some bees. After that we are working on making a dataset to collect the common news from two different newspapers.

2.2. Organization-wide

I have joined as an Intern in the research assistant group at American International University-Bangladesh. I was first asked to watch a few videos to get familiarized with the data annotation task and to get familiarized with annotation tools. I was taken to attend one of their meetings where we successfully managed the work and handover my data labeling task. Below are the images I have added in reference to the projects I have worked on during my internship.

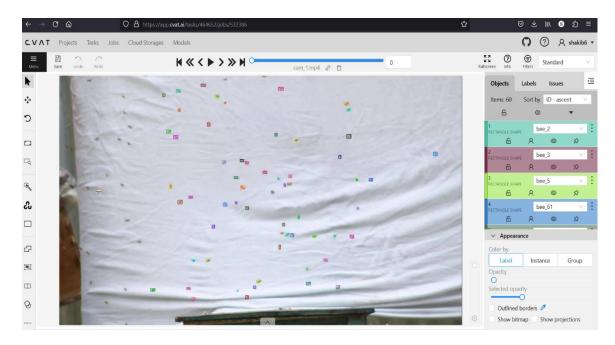


Figure 2: cam-1 data annotation on CVAT



Figure 3: cam-2 data annotation on CVAT

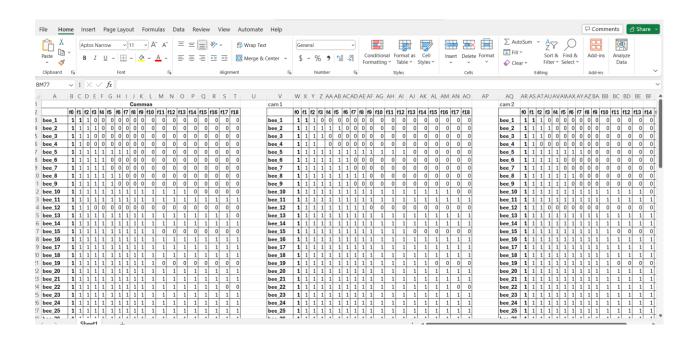


Figure 4: Verify the Common on CVAT

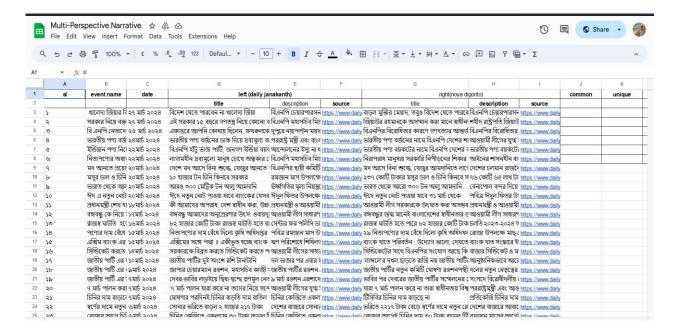


Figure 5: Dataset of common Newspaper

2.3. Other relevant activities

I have received enough support from my supervisor and other members to create a friendly environment. I was also taken to attend their official meetings for adapting actual working environment along with the group members showing how the development is built from the project's requirement.

3. CONSTRAINTS/CHALLENGES

3.1. Identified/Observed in the Organization

The American International University-Bangladesh is a well-run institution of higher education. I had a great time when I first got offered from the research group, "Computer Vision and Bio-Robotics" as a Research Assistant because I was always picking up new skills. The American International University-Bangladesh is a resourceful institution, so in the meantime, if I require anything for work that requires support, I can simply obtain it.

3.2. Academic Preparation

I've signed up for both an internship and a thesis. During my time here, every study session and assignment I completed all my academic requirements. I am therefore done with classes at the university. I gained extensive knowledge in Software Quality Assurance (SQA) and data analysis. The course has increased my professionalism, data annotation abilities, and ability to think critically and analytically. Considering that we must stay in the office during business hours and help with a lot of formal responsibilities, I think it would be extremely welcome if we were paid.

3.3. Personal/Professional Skills

At the beginning of my research assistant, I was not familiar with any data annotation tools and task. From this internship I developed my skills where I know data annotation involves labeling or tagging data to make it understandable for machines. Careful attention to detail is necessary while annotating data to confirm label correctness and consistency. Accurate labeling requires an understanding of the domain and context of the material being tagged. This could be subject area expertise, industry standards, or specific terminology understanding. Making wise selections during annotation jobs requires the ability to evaluate information and comprehend instructions. Patience and persistence are necessary for sustaining accuracy and productivity over extended periods of time when it comes to data annotation, which can be repetitive and time-consuming. For understanding annotation requirements, giving feedback, and addressing any misunderstandings or contradictions in the data, clear communication with team members or project managers is essential. To handle data annotation duties effectively, one needs be

niliar with software platforms and annotation tools. The ability to adapt to different actation tasks, data formats, and project requirements is crucial in this dynamic field.			

4. ACQUIRED KNOWLEDGE

4.1. Consequences to Organization

During my internship, I had a great time. I was a little anxious on the first day, but I became stronger and more confident with my supervisor's support and encouragement. I gained a lot of knowledge regarding research at AIUB. An internship in data annotation at AIUB may have a few benefits, from improving the effectiveness and quality of data to increasing skill development and teamwork. But the results will depend on things like the organization's capacity for efficient resource management, the kind of training interns receive, and the supervision level. During my internship, I committed to up my professional skills.

4.2. Implications to University's Internship Program

I would like to thank every one of you for helping me create the internship program. One excellent opportunity for increasing your knowledge base is through the AIUB "Research Assistant" internship program. As compared to other import businesses, it is independent and unique. At the end of the day, a potential employee will have greater access to facilities. Both advantages and disadvantages exist. It should grow, in my opinion.

4.3. Effects on Personal/Professional Skills

A supervised internship involving at least one semester is a requirement for computer science (CS) program. My internship helped me develop my current talents and learn some new research Work. Participating in a data annotation internship at American International University-Bangladesh (AIUB) can have significant effects on personal and professional skills development for the interns involved. Here are some potential effects:

- Technical Skills: I will develop my technical skills related to data annotation, including familiarity with annotation tools and software, and understanding of data labeling methodologies.
- Attention to Detail: Data annotation requires a high level of attention to detail to ensure accuracy and consistency in labeling.
- **Problem-Solving:** I will encounter challenges during the annotation process, such as ambiguous data or unclear labeling guidelines. By working through these challenges, I can develop problem-solving skills.

- Time Management: Meeting annotation deadlines and handling large volumes of
 data require interns to manage their time efficiently. Engaging in a structured
 internship program helps interns develop time management skills, prioritize tasks,
 and allocate resources effectively to meet project timelines.
- Communication Skills: Interns often collaborate with supervisors, teammates, and
 other stakeholders during the annotation process. This interaction enhances interns'
 communication skills.
- **Teamwork:** Data annotation projects often involve teamwork, with interns collaborating to complete tasks efficiently.
- Adaptability: Interns may encounter diverse datasets, annotation guidelines, and project requirements during their internship. Adapting to these changes requires flexibility and the ability to learn quickly.
- **Professional Etiquette:** Engaging in an internship provides interns with exposure to professional environments and expectations. They learn about workplace etiquette, professional conduct, and the importance of meeting deadlines and fulfilling responsibilities, preparing them for future careers.
- **Self-Confidence:** Successfully completing tasks and contributing to projects during the internship can boost interns' self-confidence.

5. CONCLUDING STATEMENTS

5.1. Summary

I had an excellent internship experience working as a research assistant for AIUB. I learned so much about new things from my internship. While I was an intern, I tested out a few ideas. I've improved at managing stress. I gained the ability to persevere in any situation throughout my internship. I learned a great deal about research and data annotation. I successfully gathered information for my research project, completed data annotation tasks, labeled photos, categorized text, and annotated data points. The curriculum has improved my knowledge and ability to work in a research group, as well as my basic analytical and explanatory skills. For this assistant program, you must maintain normal office hours and help certain authorities meet their requirements. I get excited at the thought of contributing. To work better, we must frequently work in groups. I analyzed both my productivity and my ability as an industrial worker during my internship. Take note of my skills as well. I often came across circumstances that I was unaware of or did not completely understand. I tried to learn things rapidly by using and watching tutorials. The student may have just known hypothetical skills before the internship, but after the internship, they should know about potential talents. During my internship, I picked up a lot of knowledge and experience.

5.2. Recommendations

5.2.1. Organization

AIUB is a significant organization. Its network will expand greatly as an international company. Due to multiple cables and equipment, connections to the import locations will be dependable and very safe.

5.2.2. University

An internship is necessary for students to be prepared for their first position in the industry. He or she experienced the exciting experience of working in the field and recognized the differences between their professional and academic settings. However, I observed that several students selected the incorrect organizations for their internships, which could result in financial losses. Therefore, if AIUB can work more closely with the top corporations, the number of students who complete internships there and gain valuable business experience may increase. Moreover, AIUB

needs to make sure that every student who completes an internship moves in the proper direction because a lot of students basically do it for academic credit.

5.2.3. Personal/Professional

Participating in a data annotation internship at AIUB offers interns a blend of personal and professional experiences that contribute to my growth and development in various ways.

- I was facing challenges during the internship, such as dealing with complex datasets
 or ambiguous labeling requirements, that provided me opportunities for personal
 growth and skill development.
- I engage my self-reflection as my strengths, weaknesses, and areas for improvement throughout the internship, fostering a deeper understanding of my capabilities and potential.
- During my internship I improved my interaction with supervisors, mentors, and fellow interns fostering the development of meaningful relationships, creating a supportive network that enhances interns' personal well-being and sense of belonging.
- I was engaging in real-world data annotation projects and provided me with firsthand experience of the AI and data science industry, allowing them to gain insights into industry trends, practices, and standards.
- This internship serves as a platform for me to explore potential career paths in data science, data annotation and related fields, helping me make informed decisions about my future career aspirations and goals.

A data annotation internship at AIUB offers me a rich and rewarding experience that encompasses both personal and professional growth, equipping them with the knowledge, skills, and confidence to succeed in their future.

RECOMMENDATION LETTER



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

16 May 2024

To Whom It May Concern,

I am writing to highly recommend SAJJAD HOSSAIN SHAKIB (20-43842-2) for any future endeavors or opportunities in the field of data annotation and related tasks. He has been an invaluable member of our team during his internship with us.

During his time with us, he has consistently demonstrated exceptional skills and dedication in performing data annotation tasks. He has been responsible for labeling images, categorizing text, and tagging data points according to project guidelines. His ability to maintain high levels of accuracy and attention to detail in annotation tasks has greatly contributed to the success of our projects.

Moreover, He has shown a strong commitment to quality assurance by reviewing and editing documentation and annotations to ensure adherence to established standards and guidelines. He has also conducted thorough quality checks to identify and rectify errors or inconsistencies in documentation and annotations, thereby ensuring the reliability and integrity of our data.

SAJJAD HOSSAIN SHAKIB (20-43842-2) has been a quick learner and has adapted well to our team dynamics. He has shown excellent communication skills, collaborating effectively with team members, and contributing valuable insights to discussions and problem-solving sessions.

Beyond his technical skills, he possesses a positive attitude, eagerness to learn, and a strong work ethic. He approaches tasks with enthusiasm and takes the initiative to go above and beyond what is required.

Based on his performance and contributions during his internship, I have no doubt that he will excel in any future role or project related to data annotation or similar tasks. He would be an asset to any team, and I wholeheartedly recommend him for any opportunities that he may pursue.

Regards,

Dr. Debajyoti Karmaker Associate Professor

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REFERENCES

[1] https://www.aiub.edu/about/Convocat	[1]	Ī	[1]	https://www.	aiub.edu/	/about/Conv	vocation
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- [2] https://www.aiub.edu/partnerships/strategic-partners
- [3] https://www.aiub.edu/partnerships/academic-partners
- [4] https://www.aiub.edu/about/Information

APPENDICES



Sajjad Hossain Shakib B.Sc(CSE), American International

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Kuril, Dhaka, Bangladesh

github.com/Sajjad-Hossain-Shakib

Enthusiastic and dedicated, I am now seeking an internship or job opportunity within a reputable IT company. My goal is to apply my technical skills, programming expertise, and problem-solving abilities in a collaborative and challenging environment. As a quick learner and detail-oriented individual, I aspire to contribute effectively to projects, continuously grow my technical proficiencies, and become an integral part of a dynamic team while leveraging my solid academic foundation and passion for innovation.

EDUCATION

B.Sc (CSE)

American International University-Bangladesh(AIUB), Dhaka

2020 - Present GPA-3.46/4.00

Higher Secondary Certificate(HSC) Gurudayal Govt. College

01/2017 - 05/2019

Secondary School Certificate(SSC)

Kishoreganj Govt. Boys High School

2012 - 03/2017 GPA-5.00/5.00

SKILLS



PERSONAL PROJECTS

Shifting Management System

https://github.com/Sajjad-Hossain-Shakib/Webtech-Project

Bus Ticketing System

- https://github.com/Sajjad-Hossain-Shakib/project-ASP.NET

Computer Vision and Pattern Recognition (CVPR) Projects

https://github.com/Sajjad-Hossain-Shakib/CVPR

LANGUAGES

Bangla English Full Professional Proficiency Full Professional Proficiency

INTERESTS

Bike Riding Travelling Watching Movies