

Date: January 27, 2023

Mr. Hashim P  
Computer Science & engineering  
MEA Engineering College, Perinthalmanna.

**Sub: Academic Research Intern Joining Letter**

Dear Hashim,


We are pleased to invite you to join Healthcare Technology Innovation Centre (HTIC) – IIT Madras as one of its valuable interns. We believe that HTIC will succeed in its mission of delivering healthcare technologies to the country only due to the competence, creativity, enthusiasm and energy of its team members. We are happy that you are joining us in our efforts to make an impact in the country in the healthcare technology space.

You will be designated as **Academic Research Intern** with the Cardiovascular R&D team for the period from **February 20<sup>th</sup>, 2023 to April 20<sup>th</sup>, 2023** and will be based at Chennai. There are no financial supports provided during this term. The academic internship cannot be construed as an employment or an offer of employment with HTIC – IIT Madras.

Yours Sincerely,

For HTIC – IIT Madras

Authorised Signatory

  
**Dr. Nabeel P M, Ph.D.**  
Lead Research Scientist  
(Cardiovascular Sci. & Eng.)  
HTIC – IIT Madras  
Chennai 600 036, India



Accepted

Signature :

Name:

Date:

**Dr. Nabeel P M**

24/April/2023

**Lead Research Scientist**

(Cardiovascular Science & Engineering)

nabeel@htic.iitm.ac.in

### Certificate of Internship

To whom it may concern,

This is to certify that **Mr. Hashim P** served as an academic research intern at the **Healthcare Technology Innovation Centre (HTIC), IIT Madras**, from **February 20 to April 20, 2023**. The internship spanned a period of 2 months, during which Mr. Hashim demonstrated exceptional dedication, analytical skills, and the ability to work on complex projects.

Throughout his internship, Mr. Hashim actively participated in various tasks related to the ongoing research and development activities at the cardiovascular division of HTIC. One of his notable contributions was in the field of analysing similarity matches in vascular A-mode ultrasound signals using the Dynamic Time Warping (DTW) technique. He exhibited a solid grasp of fundamental concepts such as DTW, dynamic programming, and time-series analysis. Additionally, Mr. Hashim successfully created a LabVIEW compatible DLL file for the implementation of DTW. His efforts also included conducting a comprehensive literature review on topics such as blood pulse cycle cutting and parallelization of DTW, thereby contributing to the advancement of knowledge in these areas. With this acquired knowledge, he implemented and demonstrated the existing method of arterial wall detection and blood pulse cutting using the Python language.


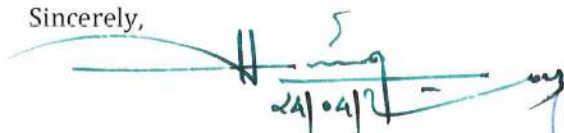
Moreover, Mr. Hashim actively participated in testing the functionality of companion apps developed at HTIC, showcasing his proficiency in handling practical software testing procedures with modern testing tools. His meticulous approach and attention to detail ensured the thorough evaluation of the software's capabilities.

Overall, Mr. Hashim's contributions and accomplishments during the internship were commendable. He consistently displayed a strong work ethic, a keen interest in research, and the ability to tackle complex challenges. His dedication, analytical skills, and ability to work on multidisciplinary projects were exemplary.

Therefore, based on his outstanding performance and valuable contributions to the research and development activities at HTIC, we are pleased to present this Internship Experience Certificate to Mr. Hashim P.

We extend our best wishes to Mr. Hashim P for his future endeavours and express our gratitude for his invaluable contributions to our organization.

Sincerely,



Date: January 27, 2023

Ms. Ayisha Jumaila T P  
Computer Science & engineering  
MEA Engineering College, Perinthalmanna.

**Sub: Academic Research Intern Joining Letter**

Dear Ayisha Jumaila,

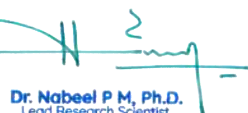
We are pleased to invite you to join Healthcare Technology Innovation Centre (HTIC) – IIT Madras as one of its valuable interns. We believe that HTIC will succeed in its mission of delivering healthcare technologies to the country only due to the competence, creativity, enthusiasm and energy of its team members. We are happy that you are joining us in our efforts to make an impact in the country in the healthcare technology space.

You will be designated as **Academic Research Intern** with the Cardiovascular R&D team for the period from **February 20<sup>th</sup>, 2023 to April 20<sup>th</sup>, 2023** and will be based at Chennai. There are no financial supports provided during this term. The academic internship cannot be construed as an employment or an offer of employment with HTIC – IIT Madras.

Yours Sincerely,

For HTIC – IIT Madras

Authorised Signatory

  
**Dr. Nabeel P M, Ph.D.**  
Lead Research Scientist  
(Cardiovascular Sci. & Eng.)  
HTIC - IIT Madras  
Chennai 600 036, India



Accepted

Signature :

Name:

Date:

**Dr. Nabeel P M**  
**Lead Research Scientist**  
(Cardiovascular Science & Engineering)  
nabeel@htic.iitm.ac.in

24/April/2023

### Certificate of Internship

To whom it may concern,

This is to certify that **Ms. Ayisha Jumaila T P** has successfully completed her academic research internship at **Healthcare Technology Innovation Centre (HTIC), IIT Madras**. The internship was carried out from **February 20 to April 20, 2023**, spanning a duration of 2 months.

Throughout her internship, Ms. Ayisha exhibited exceptional dedication and actively participated in a diverse range of tasks related to the ongoing research and development activities within the cardiovascular division at HTIC. Notably, she undertook a project involving the application of the Dynamic Time Warping (DTW) technique to analyse the similarity match in vascular A-mode ultrasound signals. Her solid grasp of fundamental concepts such as DTW, dynamic programming, and time-series analysis greatly contributed to the success of this project. Furthermore, she successfully created a LabVIEW compatible DLL file for the implementation of DTW.

In addition to her research work, Ms. Ayisha conducted an extensive literature review on topics such as blood pulse cycle cutting and parallelization of DTW. Her efforts in this area significantly advanced the knowledge and understanding of these subjects. She also demonstrated her proficiency by implementing and showcasing the DTW method for arterial wall detection and blood pulse cutting in Python language.

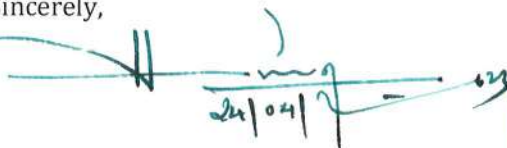
Moreover, Ms. Ayisha actively participated in testing the functionality of companion apps developed at HTIC, showcasing her ability to handle practical software testing procedures with modern testing tools. Her attention to detail and thoroughness greatly contributed to ensuring the quality and reliability of these applications.

Overall, Ms. Ayisha's contributions and accomplishments during her internship were commendable. Her dedication, analytical skills, and ability to work on complex projects were evident throughout her tenure at HTIC. She displayed a strong work ethic, eagerness to learn, and a high level of professionalism.

We extend our best wishes to Ms. Ayisha Jumaila T P for her future endeavors. We are confident that she will continue to excel in her academic and professional pursuits.

We hereby issue this certificate as a testament to Ms. Ayisha's successful completion of her academic research internship at Healthcare Technology Innovation Centre (HTIC), IIT Madras.

Sincerely,

  
24/04/23



Date: January 27, 2023

Ms. Ajisha T  
Computer Science & engineering  
MEA Engineering College, Perinthalmanna.

**Sub: Academic Research Intern Joining Letter**

Dear Ajisha T,

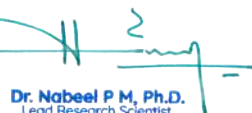
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Yours Sincerely,

For HTIC – IIT Madras

Authorised Signatory

  
**Dr. Nabeel P M, Ph.D.**  
Lead Research Scientist  
(Cardiovascular Sci. & Eng.)  
HTIC - IIT Madras  
Chennai 600 036, India



Accepted

Signature :

Name:

Date:

**Dr. Nabeel P M**  
**Lead Research Scientist**  
(Cardiovascular Science & Engineering)  
nabeel@htic.iitm.ac.in

24/April/2023

### Certificate of Internship

To whom it may concern,

This certificate is presented to certify that **Ms. Ajisha T** served as an academic research intern at **Healthcare Technology Innovation Centre (HTIC), IIT Madras**. The duration of the internship was from **February 20 to April 20, 2023**, spanning a period of 2 months.

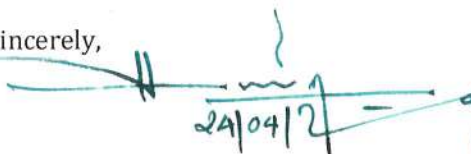

Throughout the internship, Ms. Ajisha demonstrated exemplary dedication, a strong work ethic, and actively participated in a diverse range of tasks related to the ongoing research and development activities at the cardiovascular division of HTIC. Her contributions and accomplishments have been commendable, showcasing her commitment, analytical skills, and ability to work on complex projects.

One of the key works undertaken by Ms. Ajisha involved applying the Dynamic Time Warping (DTW) technique for analysing the similarity match in vascular A-mode ultrasound signals. She exhibited a solid grasp of fundamental concepts such as DTW, dynamic programming, and time-series analysis. Moreover, she successfully created a LabVIEW compatible DLL file for implementing DTW, thereby showcasing her proficiency in programming and software development. In addition, Ms. Ajisha conducted a comprehensive literature review on topics such as blood pulse cycle cutting and parallelization of DTW. This research effort contributed significantly to the advancement of knowledge in these areas. With her acquired knowledge, she was able to implement and demonstrate the existing method of arterial wall detection and blood pulse cutting in the Python programming language, highlighting her competence in practical application.

Furthermore, Ms. Ajisha actively participated in testing the functionality of companion apps developed at HTIC. Her involvement in practical software testing procedures, along with her adeptness in utilizing modern testing tools, demonstrated her ability to handle real-world software testing scenarios effectively.

Overall, Ms. Ajisha's contributions and accomplishments during the internship were exceptional. She consistently displayed a keen interest in the subject matter, a proactive attitude towards learning, and a willingness to take on challenging tasks. We wish Ms. Ajisha all the best for her future endeavours and believe that she will continue to excel in her academic and professional pursuits.

Sincerely,

  
24/04/23  




**അങ്ങാടിപ്പുറം ഗ്രാമപഞ്ചായത്ത്**  
 അങ്ങാടിപ്പുറം പി.ഒ, മലപ്പുറം ജില്ല, പിൻ : 679 321  
 ഫോൺ : 04933 253263

കോഴിപ്പാട്ടിൽ ഹൗസ്  
 വലന്തൂർ പി.ഒ, പട്ടിക്കാട് വഴി  
 മൊബൈൽ : 9496 047 892  
 9562 370 520

**സമാധാന സീച്ചർ**  
 പ്രസിഡന്റ്

തീയതി : 12.07.2023..

സ്വീകർത്താവ്,  
 പ്രിൻസിപ്പൽ,  
 M E A എൻജിനീയറിംഗ് കോളേജ്,  
 വേങ്ങൂർ, പെരിന്തൽമണ്ണ.

To  
 Mr. Raneez  
 [Signature]

സർ,

വിഷയം : അങ്ങാടിപ്പുറം ഔൺ സൗന്ദര്യവൽക്കരണത്തിന് പദ്ധതിതയ്യാറാക്കുന്നതിന് വിദ്യാർത്ഥികളുടെ സേവനം ലഭ്യമാക്കുന്നത് സംബന്ധിച്ച്.

ബഹു. ഇന്ത്യൻ പ്രധാനമന്ത്രിയുടെ ഫ്ലാഗ്ഷിപ്പ് പദ്ധതിയായ സന്തർക്കം ആദർശ് ഗ്രാം യോജന (SAGY) പ്രകാരം മലപ്പുറം ഉപാക സഭാമണ്ഡലത്തിൽ നിന്നും ബഹു. എം.പി. ഭയാ. അബ്ദുസ്സമദ് സമുദാനി തെരഞ്ഞെടുത്ത അങ്ങാടിപ്പുറം ഗ്രാമപഞ്ചായത്തിന്റെ സമഗ്ര വികസനത്തിനായി തയ്യാറാക്കിയ വില്ലേജ് ഡവലപ്മെന്റ് പ്ലാനിൽ ഉൾപ്പെടുത്തിയ പദ്ധതിയാണ് അങ്ങാടിപ്പുറം ഔൺ സൗന്ദര്യവൽക്കരണവും ചെമ്പുതോട് സൈഡ് സംരക്ഷണവും Walk way നിർമ്മാണവും പദ്ധതികൾ. ഇവയുടെ വിശദമായ പദ്ധതിരേഖ തയ്യാറാക്കുന്നതിനായി അങ്ങാടിപ്പുറം കോളേജിലെ B Tech civil ബാച്ചിലെ വിദ്യാർത്ഥികളുടെ സേവനം ലഭ്യമാക്കണമെന്ന് സ്നേഹത്തോടെ അഭ്യർത്ഥിക്കുന്നു.

To  
 NSS Co-ordinator  
 എന്ന്  
 വിശ്വസതയോടെ  
 [Signature]  
 12/7/23

[Signature]  
**SAEEDA TEACHER**  
 PRESIDENT  
 Angappuram Grama Panchayat

From,

Muhammed Ranees. K.T  
Programme officer  
NSS unit 110, MEAEC

To,  
The Principal  
MEAEC

Permitted  
After returning

Subject: Permission to duty leave to attend training session from Angadipuram Panjayath.

After return  
will be  
green

Sir,

As per letter from Angadipuram Panjayath, Panjayath going to prepare a master plan. For that, our NSS unit support is requested. August 17<sup>th</sup> 2023 provide training sessions from angadipuram panjayath for 3<sup>rd</sup> & 4<sup>th</sup> year civil engineering students from NSS. So, I kindly request to give permission for attend the training and give duty leave for above.

14-08-2023

Vengoor.

Forwarded  
Mh.  
16/8/23

Head of the Department  
Department of Civil Engineering  
MEA Engineering College  
Perinthalmanna

Yours faithfully

14/8/23

Muhammed Ranees. K.T

Muhammed Ranees. K.T  
Programme Officer  
APJAKTU NSS Cell  
Unit No. 110  
MEA Engineering College  
Perinthalmanna - 679325



List of students from 3<sup>rd</sup> year civil Engineering.

CE

- |                                    | <u>Roll no.:</u> |
|------------------------------------|------------------|
| 1. Athira A                        | 38               |
| 2. Arshwarya T                     | 37               |
| 3. <del>Junaid</del> Muhammed - 43 |                  |
| 4. Junaidh                         |                  |

List of students from 4<sup>th</sup> year civil engineering.

CE11

- |                           |     |
|---------------------------|-----|
| 1. Sanad                  | 75  |
| 2. Shabil CH              | 99  |
| 3. Reema Kasuthodath      | 68  |
| 4. Shamzudheen C          | 101 |
| 5. Sabith Mohammed Sabith | 47  |
| 6. Mubssira T.            | 59  |

CE12

- |   |    |
|---|----|
| 7. Hashim Mohammed Hashim NK.           | 94 |
| 8. Itham musthafa                       | 34 |
| 9. Jaseem Mohammed Jaseem -             | 43 |
| 10. <del>Abu</del> Mohammed Nusus C-U - | 45 |
| 11. Adil Mohammed Adhil .P.P -          | 42 |

Muhammed Ramees. K.T  
Programme Officer  
APJAKTU NSS Cell  
Unit No. 110  
MEA Engineering College  
Perinthalmanna - 679325