

ELECTRONIC CENTER OF EXCELLENCE (e-COE)

Ref: 12/e-COE/2020

dated 11th July 2020

This latter certifies that Madhurima Mukherjee was an Intern with e-COE from 2nd January 2020 to 11th July 2020.

During her time with the e-COE, she has remained dedicated and loyal to her work and responsibilities with our company. Her responsibilities was to design an analog interface circuits for Sensors to use for water quality measurement. Madhurima did very good work and had always maintained a professional and courteous attitude and appearance while with our company.

Based on her request, we hereby released her from the organization as an Intern with effect from afternoon of 11th July 2020.

Please contact us for any additional information.

Director, Research and Training For e-COE

DCB-621, DLF Cybercity, Patia, Bhubaneswar Odisha, INDIA. Pin: 751024

: www.ecoe.co.in E-Mail: ecoe.bbsr@gmail.com

: +91-94370 14147

Corporate Identity Number 174140011991PLC046369

Technology Hub. Special Economic Zone

Plot No 3A, Sector 126, NOIDA 201 304, UP, India.

T +91 120 6125000 F +91 120 4683030

Registered Diffice: 806 Stocharth, 96, Nehru Place, New Delhi-110019, India.

www.hottech.com

mgo lot www.

2nd December, 2020

Sandipan Dey 39/C Dr. M. N. Saha road

Re.: Internship with HCL Technologies Limited

Dear Sandipan Dey,

Congratulations!

This is in response to your application for internship dated 7th December, 2020.

We are pleased to offer you an internship in HCL Technologies Limited ("HCL" or "Company").

You are required to report to Priyanko Mitra at the following Address HCL Technologies Ltd, Kolkata-SEZ, Rajarhat, DH Street on 7th December, 2020 at 9:00 AM.

The internship shall be governed by the terms and conditions as laid down hereunder in this internship agreement as stated in ANNEXURE 1.

We extend a warm welcome to you as an 'intern' in our establishment.

For HCL Technologies Limited,

Amrita Das

Vice President, Head-Global Rewards

Sandipan Dey.

Corporate identity Number L741400L1991PL0348369

Technology Hub. Special Economic Zone

Plot No. 3A, Sector 126, NOIDA 201 304, UP, India.

1 +9: 120 6125000 F +91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India

www.holtech.com

www.hci.com

Internship Agreement - ANNEXURE 1

1. The duration of your internship would be 6 months. Your internship shall come to an automatic end on 7th

June, 2021. Please note that this internship is not an offer for employment by the Company and doesn't create

any employer and employee relation and neither of us intends any employment relationship to be created

either now or at any time in the future, accordingly regulations governing employment with the Company will

not apply to you.

2. As an intern, your position shall always be that of a 'learner', who is conducting an organizational study, while

the Company shall hold the position of a 'teacher' or 'instructor'.

3. During your internship with the Company, you will be paid a stipend of INR 12,000 per month, subject to

deductions as per applicable tax laws.

4. You will be off on all weekends, public holidays as per the published Holiday calendar for HCL Technologies

Limited, accessible through www.myhcl.com. You may take personal leaves in exigencies and you should

keep your mentor and HR Partner informed.

5. During the internship, you would be required to conduct the study during the normal working hours from

9:00 am to 6:30 pm on Mondays to Fridays. You may also be required to attend trainings in shifts as permitted

by law. The shifts and timings are subject to change and will be communicated to you from time to time.

6. The company expects you to undertake, attend and complete your internship with high standards of integrity

and to maintain appropriate standards of behavior at all times.

7. Your continuation in internship shall be subject to the satisfactory verification of your credentials,

testimonials, etc. and the details given by you in your Application Form/ Declaration. Your internship shall be

liable to be terminated summarily if it is found at any time that you have concealed any material information

2

or given any false information/ particulars or convicted of or pleaded guilty of any offence or crime.

Sandipan Dey.

NOT TECHNOLOGIES LTD.

Corporate identity Number: L741400L1991PL0048369

Technology Hub. Special Economic Zone

Plot No. 3A, Sector 126, NOIDA 201 304, UP, India.

1 -91 120 5125000 F +91 120 4683030

Registered Office: 806 Sixtharth, 96, Nehru Place, New Delhi-110019, India

www.holtech.com

envir htt com

For the avoidance of doubt, your signature in this Letter constitutes your express authorization to the

Company (or the appointed third party) to conduct a background investigation on your credentials, as may

be necessary.

8. You will be required to maintain utmost secrecy and shall not divulge or disclose to anyone in any manner,

particulars or details of any information or data that you may come to possess by virtue of your association

with the Company, including details of the trade secrets, manufacturing or research process, financial,

administrative and /or organization matter or any transaction or affairs of the Company of confidential

nature.

9. You are expected to acquaint yourself with the governance related Company policies which are available at

the Company's online portal or may be acquired from the HR representatives at the respective premises. If

at any time in the opinion of the Company, you are found to be guilty of fraud, dishonesty, disobedience,

disorderly behaviour, negligence, indiscipline, or any other conduct considered by to be deterrent to the

Company's interest or of violation of one or more terms of this internship letter, the Company reserves the

right to terminate your internship without notice. The decision of the Company in this regard shall be final.

10. All inventions, discoveries, improvements, copyrightable material, trademarks ideas and concepts and other

intellectual property rights that you may make or conceive, either solely or jointly with others, during the

period of your internship, shall be deemed to be the exclusive property of the Company and you hereby

waive any and all rights, title or interest, if any, in the same in favour of the Company. Further, it is expected

that you to promptly reduce to writing and disclose to the Company all such inventions, discoveries,

improvements, copyrightable material, trademarks ideas and concepts and other intellectual property rights,

which you may make or conceive during the internship.

11. You will be responsible for safekeeping and return in good condition and order of all Company assets, which

may be in your use, custody or charge; failing which the Company shall be entitled to recover the costs of the

3

same from you.

Sandipan Dey.

HCI

Corporate Identity Number L741400L1991PLC046369

Technology Hub. Special Economic Zone

Plot No. 3A, Sector 126, NOIDA 201 304, UP, India.

1 +91 120 6125000 F +91 120 4883030

Registeres Office: 806 Sixtharth, 96, Nebru Place, New Delhi-110019, India.

www.hottech.com

www.nci.com

12. You expressly agree and undertake to fully indemnify, compensate and hold the Company harmless from and

against any and all claims, demands, damages, injuries, expenses and liability arising directly or indirectly

from your acts or omissions. You further agree that you will defend at your own expense and will indemnify

and hold the Company harmless from and against any and all damages, demands, expenses, claims, liability,

injuries, suits and proceedings asserted or brought against the Company on a claim that any material, software or other writings or articles developed by you for the Company during the course of your internship

with the Company constitutes and infringement of any patent, copyright or other third party intellectual

property right.

13. Your continuance on this internship with the Company is subject to your remaining physically and mentally

fit. You are expected to undergo medical examination as per the directions of the Company, if required unless

prohibited under law.

14. The Company is an equal opportunities Company and has a detailed equal opportunities policy, a copy of

which is available at our internal portal. You are required to read the policy and take all necessary steps to

ensure that it is properly observed. Failure to comply with the terms of the policy may result in disciplinary

action and, in serious cases, termination of internship.

15. Data Protection: You shall at all times be under a duty to provide and update the Company with your personal

particulars, including but not limited to residential address, residential telephone number, mobile phone

number, identity card number, driving licence number, income tax reference number, name(s), date(s) of

birth and contact details of spouse, next of kin, and children.

16. You consent to the Company monitoring and recording any use that you make of the Company's electronic

communications systems for the purpose of ensuring that the Company's rules are being complied with and

for legitimate business purposes. You shall comply with any electronic communication systems policies, if

4

any, that the Company may issue from time to time.

Sandipan Dey.

Oversitate Identity Number, L741400L1991PL0046369

Technology Hub. Special Economic Zoro

Plot No. 3A Sector 125, NOIDA 201 304, UP India.

1 +91 120 6125000 F +91 120 4683030

Registered Office: 506 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hottech.com

WHAT DELEGIES

17. Right to search

a) The Company reserves the right to search you or any of your property held on the Company's premises,

at any time, if the Company believes that you are under the influence of alcohol or restricted drugs or

carry a weapon, which could be hazardous to other occupants of the premises or if it believes that you

may have committed a criminal offence.

b) The Company may take assistance of the local government agencies or any other authorized agency

for conducting the necessary search as stated above.

c) If you refuse to comply with the Company's search procedure, such refusal will be treated as

misconduct and will entitle the Company to take disciplinary action.

d) If you use your personal laptop or phone for office purposes, the Company has the right to inspect,

take a back-up of the data, and/or submit the laptop and/or phone for forensic analysis on ground of

any suspicion or misconduct.

18. Further, during the period of your internship with HCL, you will be required to inter alia comply with the

Company's Code of Business Ethics & Conduct, Anti-Bribery & Anti-Corruption, Business Gift and

Entertainment policy and Health and Safety policies and failure to do so shall entitle the Company to take

appropriate disciplinary action which may lead & include up to termination of your internship with HCL at

any time without notice. Copy of such policies is accessible through www.myhcl.com or you can also contact

your HR Partner.

19. You would be required to submit the below stated documents on the date of your reporting for your

internship.

a) Qualification certificates

b) Date of birth certificate

c) Photographs - 7 no's

d) Copy of ID Card / Passport.

e) Proof of your education with <name of university>

f) Letter from University recommending you for internship.

Sandipan Dey.

Carporate Identity Number, L741400L1891PL0046369

Technology Hub. Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

1 +91 120 8125000 F +91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hottech.com

www.rci.com

If all the above terms and conditions of internship are acceptable to you, please confirm your acceptance by signing and returning to us the duplicate of this Internship letter.

No commitments other than what is mentioned in this Internship Agreement will be applicable to you or entertained by us.

I accept the above terms & conditions

Student's Name: SANDIPAN DEY

Signature : Sandipan Dey.

Date : 04/12/2020

6

Corporate Identity Number: L741400L1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T +91 120 6125000 F +91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

WWW.hcs.com

7th July 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Sagar Kumar Lo, a student of Heritage Institute of Technology, Kolkata, had undergone an internship in our Organization with our DCT Team from 07-Dec-20 to 07-Jun-21 and submitted his project report to us on Design and Implementation of Analog Front End and the same has been found satisfactory.

His conduct and performance were good during the internship period.

Regards,

Ashish Bhalla Associate Director – Human Resource HCL Technologies Ltd

Why When

Registered Office: VVIN Technologies Pvt bd (2/10, Fast Patel Nagar, Delhi – 1 (1000), India

Corporate Offices B-22.Lofts, by Sociot-34, Goragam-432001, Hurpose, Italia Tel No. 491 124 4264230 Fug No. 491 124 4264231 Websigs NEW Etilologican Fined into the volume k.com

CDV: U722000L2000YTC1651



INTERNSHIP LETTER

HR/IL/2020/12/5406 Date: 30-12-2020

Name of the Candidate Place of Joining Internship Start Date

: Bhubaneswar : Jan 4th, 2021

: Arpan Das

Dear Arpan Das

With reference to your interview you had with us, we are pleased to offer you the position of Internin VVDN Technologies Pvt. Ltd (hereinafter referred to as "VVDN" or "Company") on the following terms and conditions:

- 33. Upon successful completion of your Internship and submission of all necessary document of your completion of Degree, you will be given the status of a permanent employee and you will be given a CTC of Rs. 3.2 L Per Annum.
- 34. The internship will be for Five days a week. This is subject to any change or requirement that may come into force in future. Such changes will supersede all the relevant clauses mentioned in this offer letter.
- 35. You will be in a On the Job training period for the first 6 months from the day of your onboarding with us. During this period, if the Company finds the performance and discipline of the trainee is not satisfactory, appropriate action will be taken.
- 36. You will be required to execute Confidentiality Agreement, Terms and Conditions of Internship and such other documents/ undertakings/ agreements as may be required by VVDN from time to time.
- 37. Any discovery, invention, improvement, adaptation or variation of designs, drawings, processes, methods, material specifications, etc., which will be a result of your training in VVDN or its associates, or which you may come to know in the course of your Training, more specifically in relation to the engineering or technology used or adopted by VVDN, shall be the property of VVDN. You shall treat the above information or data in connection with any work done in VVDN strictly confidential. You shall not use, give or sell any or all of the information to any other person or firm for exploitation, for gain or otherwise.
- All information, papers, correspondence, etc., pertaining to VVDN business activities, commercial, technical or otherwise coming into your possession in the course of your training shall be treated strictly confidential.
- 39. During your training with VVDN, you may be transferred to any of the Offices/ Departments/ Units of VVDN or of associate concerns whether existing or to be set up, basis any business requirement, anywhere in India or abroad, on the same terms and conditions of Internship at the sole discretion of the management.
- 40. Leave: Regular full-time employees will have planned and unplanned leaves as per the VVDN Leave Policy whereas if you join as an Intern/ Trainee, you will be entitled to get one unplanned leave in a month on pro rata basis. Please refer leave policy for more details.
- 41. During your tenure with VVDN, you will be governed by the Service Rules and regulations of VVDN currently in force or as introduced/awarded from time to time.
- 42. Either party can terminate this internship by intimating 30 days in advance.

Corporate Office: B-22, Sector - 34, Infocity, Gurgaon, Haryana - 122001, India Registered Office: 12/10 East Patel Nagar, New Delhi - 110008, India www.vvdntech.com | Email: info@vvdntech.com

A1_01

Arfu Das.

Registered Office: VVDN Technologies Pst ltd 12/10, East Patel Nagar, Delhi – 110008, India

Corporate Office; B-22, Infocity Sector-34, Gurugram-122001, Haryana, India Tel No: +91 124 4284250 Fax No: +91 124 4284251

Website: www.anfoiech.com Finall; info@vvdatech.com

CIN: U72200DL2007PTC162619



- 43. You have been enrolled on the presumption that the particulars furnished by you are correct. In the event the said particulars are found to be incorrect or that you have concluded or withheld some other relevant facts, your internship with VVDN shall stand terminated/ cancelled without any notice.
- 44. You will diligently carry out, to the best of your ability all such duties and responsibilities as may be entrusted to you from time to time and you shall not engage yourself either directly or indirectly in any other employment, business or occupation other than your On the Job Training curriculum.
- 45. Your email acceptance of this letter is expected within 3 days from the date of releasing the offer letter. This offer shall become void after completion of 3 days in-case no acceptance is received from the candidate.
- 46. As per the business requirements, company can ask for short-term or long-term travel/ deployment to any of the work location in India or abroad.
- 47. Any interim voluntary or involuntary drop out cases will not be considered for any settlements and internship certificates. The internship certificate will be given for such trainees who will not be able to continue VVDN due to observed performance issues during internship
- 48. In any such case, where trainee wants to leave the training or absconds or performs not as per the expectations due to which his confirmation of the services doesn't happen, trainees are liable to pay the training expenses as recovery which is not only limited to the six months stipend amount but also up to a sum of Rs. 2,00,000/- towards training cost, irrespective of the internship duration.

Please Sign the duplicate copy of this letter and return the same as token of your acceptance [Acceptance is through email or signatures] of the terms and conditions detailed in the letter.

On the day of your joining, please bring original and photocopies of the following for verification:

- Pan Card
- Aadhar Card
- 2 Color photographs, passport size
- 10th Certificate
- 12th Certificate
- All semester mark-sheets & Degree certificate
- NOC Letter from college for Internship
- Passport (Passport is mandatory at the time of joining. In case you do not possess a valid passport, we
 want you to apply for it in advance and submit the copy of application to HR department within one
 month of your joining)

Wishing you a rewarding career with VVDN and welcoming you to our Pursuit of Excellence.

Yours sincerely,

For VVDN Technologies Pvt. Ltd.

Name of the Intern: Arpan Das

Authorized Signatory

Signature: Ampan Pas.

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 5125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

HWW.hcl.com

7th July 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Shuvam Podder, a student of Heritage Institute of Technology, Kolkata, had undergone an internship in our Organization with our ISD Team from 07-Dec-20 to 07-Jun-21 and submitted his project report to us on LVCMOS18 IO Design and the same has been found satisfactory.

His conduct and performance were good during the internship period.

Regards,

Ashish Bhalla Associate Director – Human Resource HCL Technologies Ltd

Why holling

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.holtech.com

www.hcl.com

2nd December, 2020

Sagar Kumar Lo Rupnagar, Sonarpur, Kolkata-700150

Re.: Internship with HCL Technologies Limited

Dear Sagar Kumar Lo,

Congratulations!

This is in response to your application for internship dated **7**th **December, 2020**.

We are pleased to offer you an internship in HCL Technologies Limited ("HCL" or "Company").

You are required to report to **Priyanko Mitra** at the following Address **HCL Technologies Ltd, Kolkata-SEZ, Rajarhat, DH Street** on **7**th **December, 2020** at **9:00 AM.**

The internship shall be governed by the terms and conditions as laid down hereunder in this internship agreement as stated in **ANNEXURE 1.**

We extend a warm welcome to you as an 'intern' in our establishment.

For HCL Technologies Limited,

Amrita Das

Vice President, Head-Global Rewards

Sagaa Kumaa Lo



Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125800 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcltech.com

www.hci.com

Internship Agreement - ANNEXURE 1

1. The duration of your internship would be 6 months. Your internship shall come to an automatic end on 7th

June, 2021. Please note that this internship is not an offer for employment by the Company and doesn't create

any employer and employee relation and neither of us intends any employment relationship to be created

either now or at any time in the future, accordingly regulations governing employment with the Company will

not apply to you.

2. As an intern, your position shall always be that of a 'learner', who is conducting an organizational study, while

the Company shall hold the position of a 'teacher' or 'instructor'.

3. During your internship with the Company, you will be paid a stipend of INR 12,000 per month, subject to

deductions as per applicable tax laws.

4. You will be off on all weekends, public holidays as per the published Holiday calendar for HCL Technologies

Limited, accessible through www.myhcl.com. You may take personal leaves in exigencies and you should

keep your mentor and HR Partner informed.

5. During the internship, you would be required to conduct the study during the normal working hours from

9:00 am to 6:30 pm on Mondays to Fridays. You may also be required to attend trainings in shifts as permitted

by law. The shifts and timings are subject to change and will be communicated to you from time to time.

6. The company expects you to undertake, attend and complete your internship with high standards of integrity

and to maintain appropriate standards of behavior at all times.

7. Your continuation in internship shall be subject to the satisfactory verification of your credentials,

testimonials, etc. and the details given by you in your Application Form/ Declaration. Your internship shall be

liable to be terminated summarily if it is found at any time that you have concealed any material information

2

or given any false information/ particulars or convicted of or pleaded guilty of any offence or crime.

Sagar Kumar Lo

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hci.com

For the avoidance of doubt, your signature in this Letter constitutes your express authorization to the

Company (or the appointed third party) to conduct a background investigation on your credentials, as may

be necessary.

8. You will be required to maintain utmost secrecy and shall not divulge or disclose to anyone in any manner,

particulars or details of any information or data that you may come to possess by virtue of your association

with the Company, including details of the trade secrets, manufacturing or research process, financial,

administrative and /or organization matter or any transaction or affairs of the Company of confidential

nature.

9. You are expected to acquaint yourself with the governance related Company policies which are available at

the Company's online portal or may be acquired from the HR representatives at the respective premises. If

at any time in the opinion of the Company, you are found to be guilty of fraud, dishonesty, disobedience,

disorderly behaviour, negligence, indiscipline, or any other conduct considered by to be deterrent to the

Company's interest or of violation of one or more terms of this internship letter, the Company reserves the

right to terminate your internship without notice. The decision of the Company in this regard shall be final.

10. All inventions, discoveries, improvements, copyrightable material, trademarks ideas and concepts and other

intellectual property rights that you may make or conceive, either solely or jointly with others, during the

period of your internship, shall be deemed to be the exclusive property of the Company and you hereby

waive any and all rights, title or interest, if any, in the same in favour of the Company. Further, it is expected

that you to promptly reduce to writing and disclose to the Company all such inventions, discoveries,

improvements, copyrightable material, trademarks ideas and concepts and other intellectual property rights,

which you may make or conceive during the internship.

11. You will be responsible for safekeeping and return in good condition and order of all Company assets, which

may be in your use, custody or charge; failing which the Company shall be entitled to recover the costs of the

3

same from you.

Sagaa Kumaa Lo

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hcl.com

12. You expressly agree and undertake to fully indemnify, compensate and hold the Company harmless from and

against any and all claims, demands, damages, injuries, expenses and liability arising directly or indirectly

from your acts or omissions. You further agree that you will defend at your own expense and will indemnify

and hold the Company harmless from and against any and all damages, demands, expenses, claims, liability,

injuries, suits and proceedings asserted or brought against the Company on a claim that any material,

software or other writings or articles developed by you for the Company during the course of your internship

with the Company constitutes and infringement of any patent, copyright or other third party intellectual

property right.

13. Your continuance on this internship with the Company is subject to your remaining physically and mentally

fit. You are expected to undergo medical examination as per the directions of the Company, if required unless

prohibited under law.

14. The Company is an equal opportunities Company and has a detailed equal opportunities policy, a copy of

which is available at our internal portal. You are required to read the policy and take all necessary steps to

ensure that it is properly observed. Failure to comply with the terms of the policy may result in disciplinary

action and, in serious cases, termination of internship.

15. Data Protection: You shall at all times be under a duty to provide and update the Company with your personal

particulars, including but not limited to residential address, residential telephone number, mobile phone

number, identity card number, driving licence number, income tax reference number, name(s), date(s) of

birth and contact details of spouse, next of kin, and children.

16. You consent to the Company monitoring and recording any use that you make of the Company's electronic

communications systems for the purpose of ensuring that the Company's rules are being complied with and

for legitimate business purposes. You shall comply with any electronic communication systems policies, if

any, that the Company may issue from time to time.

Sagaa Kumaa Lo

Corporate Identity Number: L74140DL1991PLC346369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125800 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hci.com

17. Right to search

a) The Company reserves the right to search you or any of your property held on the Company's premises,

at any time, if the Company believes that you are under the influence of alcohol or restricted drugs or

carry a weapon, which could be hazardous to other occupants of the premises or if it believes that you

may have committed a criminal offence.

b) The Company may take assistance of the local government agencies or any other authorized agency

for conducting the necessary search as stated above.

c) If you refuse to comply with the Company's search procedure, such refusal will be treated as

misconduct and will entitle the Company to take disciplinary action.

d) If you use your personal laptop or phone for office purposes, the Company has the right to inspect,

take a back-up of the data, and/or submit the laptop and/or phone for forensic analysis on ground of

any suspicion or misconduct.

18. Further, during the period of your internship with HCL, you will be required to inter alia comply with the

Company's Code of Business Ethics & Conduct, Anti-Bribery & Anti-Corruption, Business Gift and

Entertainment policy and Health and Safety policies and failure to do so shall entitle the Company to take

appropriate disciplinary action which may lead & include up to termination of your internship with HCL at

any time without notice. Copy of such policies is accessible through **www.myhcl.com** or you can also contact

your HR Partner.

19. You would be required to submit the below stated documents on the date of your reporting for your

5

internship.

a) Qualification certificates

b) Date of birth certificate

c) Photographs - 7 no's

d) Copy of ID Card / Passport.

e) Proof of your education with <name of university>

f) Letter from University recommending you for internship.

Sagaa Kumaa Lo

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No: 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hcl.com

If all the above terms and conditions of internship are acceptable to you, please confirm your acceptance by signing and returning to us the duplicate of this Internship letter.

No commitments other than what is mentioned in this Internship Agreement will be applicable to you or entertained by us.

I accept the above terms & conditions

Student's Name: Sagar Kumar Lo

Signature : Sagaa Kumaa Le

Date : 4/12/2020

HIGH TECHNOLOGIES LTD.

Cooporativ Ministry Number: L7414304.1987.PLC0482992
Text this pagy rest. Special Sciniaries, Zone
Plot No. 124, Section 1701, N0006 201 204, UE, Janda,
T +91 103 0125000 F +91 120 4080000.
Registers Office: ISSE Sciniaries, ISS, Netro: Place, New Delhi-F10010, India.
**
WWW.NOTICE.com

7th July 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Sandipan Dey, a student of Heritage Institute of Technology, Kolkata, had undergone an internship in our Organization with our PMT Team from 07-Dec-20 to 07-Jun-21 and submitted his project report to us on Standalone Multiloop fast LDO (Linear Regulator) and the same has been found satisfactory.

His conduct and performance were good during the internship period.

Regards,

Ashish Bhalla Associate Director — Human Resource HCL Technologies Ltd.



Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hcl.com

2nd December, 2020

Shuvam Podder 8/18,Netaji Nagar, Kolkata-700092

Re.: Internship with HCL Technologies Limited

Dear Shuvam Podder,

Congratulations!

This is in response to your application for internship dated **7**th **December, 2020**.

We are pleased to offer you an internship in HCL Technologies Limited ("HCL" or "Company").

You are required to report to **Priyanko Mitra** at the following Address **HCL Technologies Ltd, Kolkata-SEZ, Rajarhat, DH Street** on **7**th **December, 2020** at **9:00 AM.**

The internship shall be governed by the terms and conditions as laid down hereunder in this internship agreement as stated in **ANNEXURE 1.**

We extend a warm welcome to you as an 'intern' in our establishment.

For HCL Technologies Limited,

Amrita Das

Vice President, Head-Global Rewards

Shuvam Podder

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125800 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hci.com

Internship Agreement - ANNEXURE 1

1. The duration of your internship would be 6 months. Your internship shall come to an automatic end on 7th

June, 2021. Please note that this internship is not an offer for employment by the Company and doesn't create

any employer and employee relation and neither of us intends any employment relationship to be created

either now or at any time in the future, accordingly regulations governing employment with the Company will

not apply to you.

2. As an intern, your position shall always be that of a 'learner', who is conducting an organizational study, while

the Company shall hold the position of a 'teacher' or 'instructor'.

3. During your internship with the Company, you will be paid a stipend of INR 12,000 per month, subject to

deductions as per applicable tax laws.

4. You will be off on all weekends, public holidays as per the published Holiday calendar for HCL Technologies

Limited, accessible through www.myhcl.com. You may take personal leaves in exigencies and you should

keep your mentor and HR Partner informed.

5. During the internship, you would be required to conduct the study during the normal working hours from

9:00 am to 6:30 pm on Mondays to Fridays. You may also be required to attend trainings in shifts as permitted

by law. The shifts and timings are subject to change and will be communicated to you from time to time.

6. The company expects you to undertake, attend and complete your internship with high standards of integrity

and to maintain appropriate standards of behavior at all times.

7. Your continuation in internship shall be subject to the satisfactory verification of your credentials,

testimonials, etc. and the details given by you in your Application Form/ Declaration. Your internship shall be

liable to be terminated summarily if it is found at any time that you have concealed any material information

or given any false information/ particulars or convicted of or pleaded guilty of any offence or crime.

Shuram Podder

2

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hci.com

For the avoidance of doubt, your signature in this Letter constitutes your express authorization to the

Company (or the appointed third party) to conduct a background investigation on your credentials, as may

be necessary.

8. You will be required to maintain utmost secrecy and shall not divulge or disclose to anyone in any manner,

particulars or details of any information or data that you may come to possess by virtue of your association

with the Company, including details of the trade secrets, manufacturing or research process, financial,

administrative and /or organization matter or any transaction or affairs of the Company of confidential

nature.

9. You are expected to acquaint yourself with the governance related Company policies which are available at

the Company's online portal or may be acquired from the HR representatives at the respective premises. If

at any time in the opinion of the Company, you are found to be guilty of fraud, dishonesty, disobedience,

disorderly behaviour, negligence, indiscipline, or any other conduct considered by to be deterrent to the

Company's interest or of violation of one or more terms of this internship letter, the Company reserves the

right to terminate your internship without notice. The decision of the Company in this regard shall be final.

10. All inventions, discoveries, improvements, copyrightable material, trademarks ideas and concepts and other

intellectual property rights that you may make or conceive, either solely or jointly with others, during the

period of your internship, shall be deemed to be the exclusive property of the Company and you hereby

waive any and all rights, title or interest, if any, in the same in favour of the Company. Further, it is expected

that you to promptly reduce to writing and disclose to the Company all such inventions, discoveries,

improvements, copyrightable material, trademarks ideas and concepts and other intellectual property rights,

which you may make or conceive during the internship.

11. You will be responsible for safekeeping and return in good condition and order of all Company assets, which

may be in your use, custody or charge; failing which the Company shall be entitled to recover the costs of the

same from you.

Shuvam Podder

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125000 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hcl.com

12. You expressly agree and undertake to fully indemnify, compensate and hold the Company harmless from and

against any and all claims, demands, damages, injuries, expenses and liability arising directly or indirectly

from your acts or omissions. You further agree that you will defend at your own expense and will indemnify

and hold the Company harmless from and against any and all damages, demands, expenses, claims, liability,

injuries, suits and proceedings asserted or brought against the Company on a claim that any material,

software or other writings or articles developed by you for the Company during the course of your internship

with the Company constitutes and infringement of any patent, copyright or other third party intellectual

property right.

13. Your continuance on this internship with the Company is subject to your remaining physically and mentally

fit. You are expected to undergo medical examination as per the directions of the Company, if required unless

prohibited under law.

14. The Company is an equal opportunities Company and has a detailed equal opportunities policy, a copy of

which is available at our internal portal. You are required to read the policy and take all necessary steps to

ensure that it is properly observed. Failure to comply with the terms of the policy may result in disciplinary

action and, in serious cases, termination of internship.

15. Data Protection: You shall at all times be under a duty to provide and update the Company with your personal

particulars, including but not limited to residential address, residential telephone number, mobile phone

number, identity card number, driving licence number, income tax reference number, name(s), date(s) of

birth and contact details of spouse, next of kin, and children.

16. You consent to the Company monitoring and recording any use that you make of the Company's electronic

communications systems for the purpose of ensuring that the Company's rules are being complied with and

for legitimate business purposes. You shall comply with any electronic communication systems policies, if

any, that the Company may issue from time to time.

Shuram Podder

Corporate Identity Number: L74140DL1991PLC346369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T+91 120 6125800 F+91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hcl.com

17. Right to search

a) The Company reserves the right to search you or any of your property held on the Company's premises,

at any time, if the Company believes that you are under the influence of alcohol or restricted drugs or

carry a weapon, which could be hazardous to other occupants of the premises or if it believes that you

may have committed a criminal offence.

b) The Company may take assistance of the local government agencies or any other authorized agency

for conducting the necessary search as stated above.

c) If you refuse to comply with the Company's search procedure, such refusal will be treated as

misconduct and will entitle the Company to take disciplinary action.

d) If you use your personal laptop or phone for office purposes, the Company has the right to inspect,

take a back-up of the data, and/or submit the laptop and/or phone for forensic analysis on ground of

any suspicion or misconduct.

18. Further, during the period of your internship with HCL, you will be required to inter alia comply with the

Company's Code of Business Ethics & Conduct, Anti-Bribery & Anti-Corruption, Business Gift and

Entertainment policy and Health and Safety policies and failure to do so shall entitle the Company to take

appropriate disciplinary action which may lead & include up to termination of your internship with HCL at

any time without notice. Copy of such policies is accessible through www.myhcl.com or you can also contact

your HR Partner.

19. You would be required to submit the below stated documents on the date of your reporting for your

5

internship.

a) Qualification certificates

b) Date of birth certificate

c) Photographs - 7 no's

d) Copy of ID Card / Passport.

e) Proof of your education with <name of university>

f) Letter from University recommending you for internship.

Shuvam Podder

Corporate Identity Number: L74140DL1991PLC046369

Technology Hub, Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India.

T +91 120 6125000 F +91 120 4683030

Registered Office: 806 Siddharth, 96, Nehru Place, New Delhi-110019, India.

www.hcitech.com

www.hcl.com

If all the above terms and conditions of internship are acceptable to you, please confirm your acceptance by signing and returning to us the duplicate of this Internship letter.

No commitments other than what is mentioned in this Internship Agreement will be applicable to you or entertained by us.

I accept the above terms & conditions

Student's Name: SHUVAM PODDER

Signature : Shuvam Podder

Date : 04/12/2020

NOT TROUBER DOSES FOR

29th June 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Abhishek Roy, a student of Heritage Institute of Technology had undergone an internship in our Organization with our ERS Team from 7th December 2020 to 29th June 2021 and submitted his project report to us on LVCMOS18 IO Receiver Design and the same has been found satisfactory.

His conduct and performance were good during the internship period.

Regards,
White Williams

Ashish Bhalla

Associate Director - Human Resource

HCL Technologies Ltd

MOLTECHNOLOGIES LTO.

Corporate Identity Number, LT41400L1991PLC046369

Technology Hub. Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 261 304, UP, India.

T +91 120 6125000 F +91 120 4683030

Registered Office 806 Suddharth, 96, Nehru Place, New Delhi-110019, India

www.holtech.com

WWW.lief.com

2nd December, 2020

Abhishek Roy Near Sukanta Sangha Club, Purbachal, pin-700124

Re.: Internship with HCL Technologies Limited

Dear Abhishek Roy,

Congratulations!

This is in response to your application for internship dated 7th December, 2020.

We are pleased to offer you an internship in HCL Technologies Limited ("HCL" or "Company").

You are required to report to Priyanko Mitra at the following Address HCL Technologies Ltd, Kolkata-SEZ, Rajarhat, DH Street on 7th December, 2020 at 9:00 AM.

The internship shall be governed by the terms and conditions as laid down hereunder in this internship agreement as stated in ANNEXURE 1.

We extend a warm welcome to you as an 'intern' in our establishment.

For HCL Technologies Limited,

Amrita Das

Vice President, Head-Global Rewards

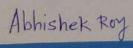
Abhishek Roy

Corporate Identity Number: L741400L1991PLC046359
Technology Hub. Special Eponemic Zene
Plot No.: 3A, Sector-126, NOIDA 201-394, UP, Ireda.
T +91-126-5125000F +91-129-4683030
Registered Office: 806-5idstanth, 96, Nehrul Place, New Delhi-110919, India.
www.hotech.com

The duration of your internship would be 6 months. Your internship shall come to an automatic end on 7th
June, 2021. Please note that this internship is not an offer for employment by the Company and doesn't create
any employer and employee relation and neither of us intends any employment relationship to be created
either now or at any time in the future, accordingly regulations governing employment with the Company will
not apply to you.

Internship Agreement - ANNEXURE 1

- As an intern, your position shall always be that of a 'learner', who is conducting an organizational study, while
 the Company shall hold the position of a 'teacher' or 'instructor'.
- During your internship with the Company, you will be paid a stipend of INR 12,000 per month, subject to deductions as per applicable tax laws.
- You will be off on all weekends, public holidays as per the published Holiday calendar for HCL Technologies
 Limited, accessible through www.myhcl.com. You may take personal leaves in exigencies and you should keep your mentor and HR Partner informed.
- 5. During the internship, you would be required to conduct the study during the normal working hours from 9:00 am to 6:30 pm on Mondays to Fridays. You may also be required to attend trainings in shifts as permitted by law. The shifts and timings are subject to change and will be communicated to you from time to time.
- 6. The company expects you to undertake, attend and complete your internship with high standards of integrity and to maintain appropriate standards of behavior at all times.
- 7. Your continuation in internship shall be subject to the satisfactory verification of your credentials, testimonials, etc. and the details given by you in your Application Form/ Declaration. Your internship shall be liable to be terminated summarily if it is found at any time that you have concealed any material information or given any false information/ particulars or convicted of or pleaded guilty of any offence or crime.





Corporate Identity Number, L74140DL1991PLC046369

Technology Hub. Special Economic Zone

Plot No : 3A, Sector 126, NOIDA 201 304, UP, India

T +91 120 6125500 F +91 120 4683030

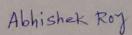
Registered Office 806 Substarth, 96, Nehru Place, New Delhi-110319, India

www.holtech.com

straine liet com

For the avoidance of doubt, your signature in this Letter constitutes your express authorization to the Company (or the appointed third party) to conduct a background investigation on your credentials, as may be necessary.

- 8. You will be required to maintain utmost secrecy and shall not divulge or disclose to anyone in any manner, particulars or details of any information or data that you may come to possess by virtue of your association with the Company, including details of the trade secrets, manufacturing or research process, financial, administrative and /or organization matter or any transaction or affairs of the Company of confidential nature.
- 9. You are expected to acquaint yourself with the governance related Company policies which are available at the Company's online portal or may be acquired from the HR representatives at the respective premises. If at any time in the opinion of the Company, you are found to be guilty of fraud, dishonesty, disobedience, disorderly behaviour, negligence, indiscipline, or any other conduct considered by to be deterrent to the Company's interest or of violation of one or more terms of this internship letter, the Company reserves the right to terminate your internship without notice. The decision of the Company in this regard shall be final.
- 10. All inventions, discoveries, improvements, copyrightable material, trademarks ideas and concepts and other intellectual property rights that you may make or conceive, either solely or jointly with others, during the period of your internship, shall be deemed to be the exclusive property of the Company and you hereby waive any and all rights, title or interest, if any, in the same in favour of the Company. Further, it is expected that you to promptly reduce to writing and disclose to the Company all such inventions, discoveries, improvements, copyrightable material, trademarks ideas and concepts and other intellectual property rights, which you may make or conceive during the internship.
- 11. You will be responsible for safekeeping and return in good condition and order of all Company assets, which may be in your use, custody or charge; failing which the Company shall be entitled to recover the costs of the same from you.



HIGH FECHNOLOGIES LTD.

Despetate Identity Number: L741400L1991PLC046369
Technology Hub. Special Economic Zone
Plot No.: 3A, Sector 126, NOIDA 201 304, UP, India.
T +91 120 6125000 F +91 120 4683030
Registered Office: 606 Skidstarto, 96, Nehru Place, New Delhi-110019; India.
www.holisch.com

ANNAN DOUBLE

- 12. You expressly agree and undertake to fully indemnify, compensate and hold the Company harmless from and against any and all claims, demands, damages, injuries, expenses and liability arising directly or indirectly from your acts or omissions. You further agree that you will defend at your own expense and will indemnify and hold the Company harmless from and against any and all damages, demands, expenses, claims, liability, injuries, suits and proceedings asserted or brought against the Company on a claim that any material, software or other writings or articles developed by you for the Company during the course of your internship with the Company constitutes and infringement of any patent, copyright or other third party intellectual property right.
- 13. Your continuance on this internship with the Company is subject to your remaining physically and mentally fit. You are expected to undergo medical examination as per the directions of the Company, if required unless prohibited under law.
- 14. The Company is an equal opportunities Company and has a detailed equal opportunities policy, a copy of which is available at our internal portal. You are required to read the policy and take all necessary steps to ensure that it is properly observed. Failure to comply with the terms of the policy may result in disciplinary action and, in serious cases, termination of internship.
- 15. Data Protection: You shall at all times be under a duty to provide and update the Company with your personal particulars, including but not limited to residential address, residential telephone number, mobile phone number, identity card number, driving licence number, income tax reference number, name(s), date(s) of birth and contact details of spouse, next of kin, and children.
- 16. You consent to the Company monitoring and recording any use that you make of the Company's electronic communications systems for the purpose of ensuring that the Company's rules are being complied with and for legitimate business purposes. You shall comply with any electronic communication systems policies, if any, that the Company may issue from time to time.

Abhishek Roy

CONTRACTOR OF THE PARTY OF THE

Corputable fountity Number: £741400£1991P£0349369

Technology Hub. Special Economic Zone

Plot No. 3A, Sector 126, NOISA 201 304, UP, India.

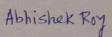
T.+91 120 6125000 F.+91 120 4683030

Repatered Office: 506 Saldherth, 96, Nehru Place, New Delhi-110016, India.

www.hottech.com

17. Right to search

- a) The Company reserves the right to search you or any of your property held on the Company's premises, at any time, if the Company believes that you are under the influence of alcohol or restricted drugs or carry a weapon, which could be hazardous to other occupants of the premises or if it believes that you may have committed a criminal offence.
- b) The Company may take assistance of the local government agencies or any other authorized agency for conducting the necessary search as stated above.
- c) If you refuse to comply with the Company's search procedure, such refusal will be treated as misconduct and will entitle the Company to take disciplinary action.
- d) If you use your personal laptop or phone for office purposes, the Company has the right to inspect, take a back-up of the data, and/or submit the laptop and/or phone for forensic analysis on ground of any suspicion or misconduct.
- 18. Further, during the period of your internship with HCL, you will be required to inter alia comply with the Company's Code of Business Ethics & Conduct, Anti-Bribery & Anti-Corruption, Business Gift and Entertainment policy and Health and Safety policies and failure to do so shall entitle the Company to take appropriate disciplinary action which may lead & include up to termination of your internship with HCL at any time without notice. Copy of such policies is accessible through www.myhcl.com or you can also contact your HR Partner.
- 19. You would be required to submit the below stated documents on the date of your reporting for your internship.
 - a) Qualification certificates
 - b) Date of birth certificate
 - c) Photographs 7 no's
 - d) Copy of ID Card / Passport.
 - e) Proof of your education with <name of university>
 - f) Letter from University recommending you for internship.



HICL TECHNOLOGIES 1.70.

Corporate Identity Number: L741400L1991PLC046369

Technology Huto Special Economic Zone

Plot No : 3A, Sector 126, NOIGA 201 304, UF, India.

3 +91 120 6125000 F +91 120 4583030

Registered Office: 806 Suisharth, 96, Nehru Place, New Delhi-110019, India.

www.holtech.com

week/bloom

If all the above terms and conditions of internship are acceptable to you, please confirm your acceptance by signing and returning to us the duplicate of this Internship letter.

No commitments other than what is mentioned in this Internship Agreement will be applicable to you or entertained by us.

I accept the above terms & conditions

Student's Name: ABHISHER ROY

Signature : Abhishek Roy Date : 4/12/2020

From: Mrinal Das <mrinal.ecoe@gmail.com>

Date: Fri, Dec 20, 2019 at 2:31 PM

Subject: Onboarding of Madhurima Mukherjee in NIST-ECOE

To: Ajit Kumar Panda <akpanda62@hotmail.com>

Cc: krishanu datta <krishanu.datta@heritageit.edu>, <madhurimamukherjee2@gmail.com>

Sir,

This is to confirm we can go ahead with internship for Madhurima Mukherjee for six months starting 2nd January, 2020. Stipend will be 12500/- per month.

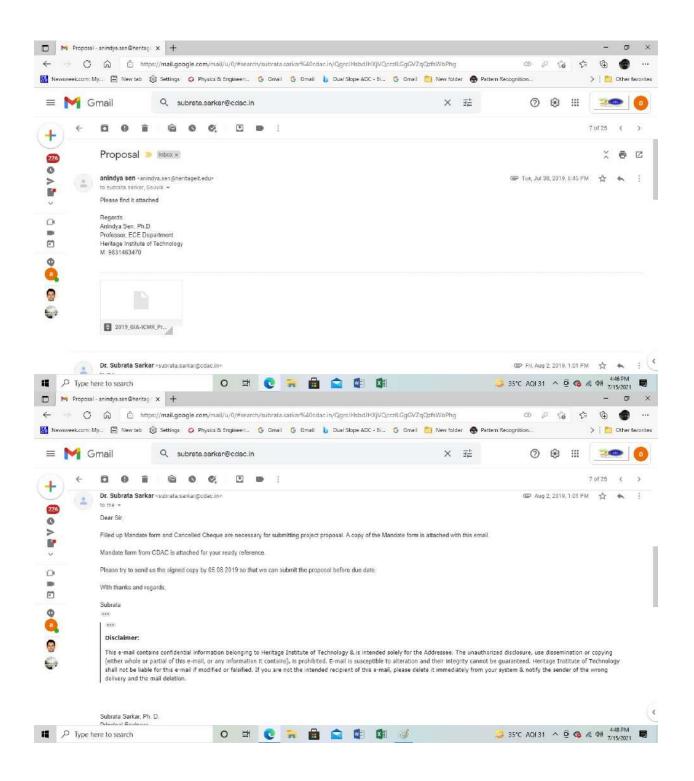
Kindly enable the offer letter regarding the same , so that she can arrange for relocation to Bhubaneswhar .

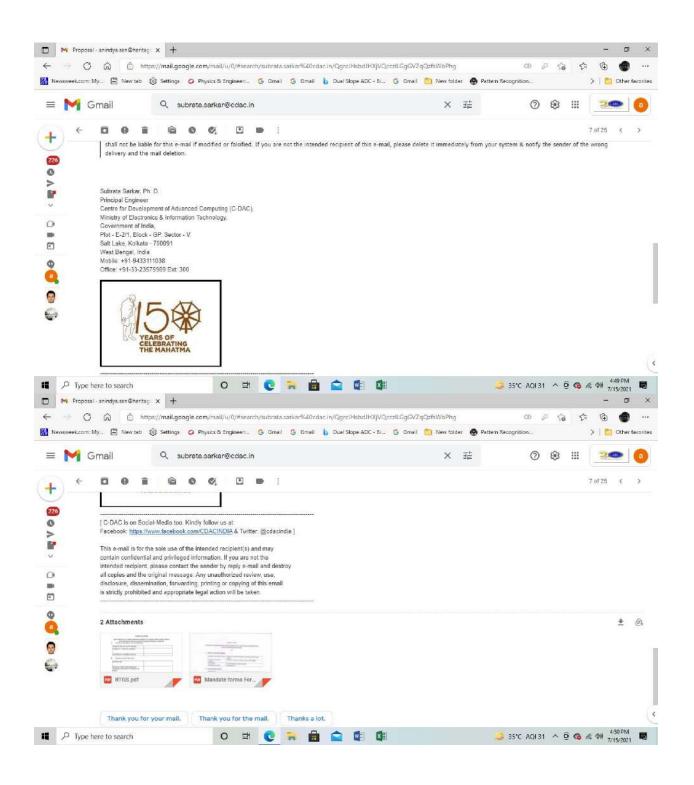
Regards, Mrinal

--

Mrinal Das

Founder Electronic Center of Excellence +91-7381974602







About the Workshop

The goal of the 3rd International Workshop on Emergency Response Technologies and Services (EmeRTeS) 2021 is to bring together researchers and practitioners from academia, government, NGO and industry in areas related to disaster management in order to gain experience and insight into the challenges that such environments pose for the people. The workshop is dedicated to the dissemination of original contributions that discusses solutions required to combat disaster situation.

Call for Papers

We expect submission from a wide ranging discipline and expect the workshop to be a meeting point for cross-discipline discussion whereby various facets of disaster management would get highlighted. Topics of interest include, but are not limited to:

1. Human Experiences in the Design of Crisis Response and Management Services and Systems

- Planning, Foresight and Risk Analysis
- Social Media and Collaborative Systems
- Dynamics of Need Analysis, Monitoring and Assessment
- Emergency and Disaster Prediction
- Collaborative decision-making
- Social Science aspects of Emergency Response and Disaster Management

2. Distributed Systems for Disaster Management

- Collaborative information systems architectures, technologies, and algorithms for crisis management
- Cooperative communication in Disaster Management
- Context awareness for distributed resource management
- Architectures, Middleware, Prototypes and Test-beds for Distributed Disaster Management
- Reliability, resilience and fault tolerance techniques in distributed environment
- Distributed Decision Support Methods for Complex Crisis
- Crowdsourcing platform for disaster preparedness and post disaster rescue/relief operation

3. Enabling Technologies and Systems

- Social Networking for Crisis Management
- · Post disaster damage and loss assessment
- Geographical Information Systems for Crisis Response and Management

- Early Warning and Alerting Systems,
- Ad-Hoc Mobile Networks
- Opportunistic and Delay Tolerant Networks
- Data gathering, Fusion, Routing, Dissemination and Caching in Delay Tolerant Network/ Opportunistic networks
- Security, Trust, Privacy and Cooperation issues in Delay Tolerant Network/ Opportunistic networks
- Mobility models
- Interfaces and Methods for Interconnection of Heterogeneous Networks and Devices
- System Architectures, Resource Discovery, Retrieval, Scheduling, Allocation, Monitoring
- · Heterogeneous Wireless Connectivity Management
- · Community participation in emergency management

Paper Submission Guidelines

Authors are welcome to submit regular papers (6 pages, PDF format) describing original ideas written in English, including title, abstract, figures and references, and not published or under review elsewhere. Also, papers must be formatted with ACM conference proceedings template

https://www.acm.org/publications/proceedings-template.

For each accepted workshop paper to appear in the ACM digital library, at least one author of the paper must register as a regular registrant even if he/she is a student, and the paper must be presented in the workshop by one of its authors. Papers must be submitted electronically in printable PDF form via the Easychair page here: https://easychair.org/conferences/?conf=icdcn2021.

Important Dates

Paper Submission: September 20, 2020
Notifications: October 10, 2020
Camera Ready: October 20, 2020
Workshop Date: January 05, 2021

Organizers

Workshop Chairs

- Somprakash Bandyopadhyay, Indian Institute of Management Calcutta, India
- Sajal Das, Missouri University of Science and Technology, USA

TPC Co-Chairs

- Simone Silvestri, University of Kentucky, USA
- Siuli Roy, Heritage Institute of Technology, Kolkata, India

Organizing Chair

• Souvik Basu, Heritage Institute of Technology, Kolkata, India

Contact Details

For any further query mail to souvik.basu@heritageit.edu or call +919903998511

Workshop Website

https://sites.google.com/view/emertes2021

Chapter 3 Using Blockchain in Intermittently Connected Network Environments



Souvik Basu, Soumyadip Chowdhury, and Sipra Das Bit

Abstract This chapter explores the possible integration of blockchain technology with intermittently connected networks, towards exploiting the utility and availability of blockchain technology in intermittently connected network environments. It also identifies the challenges of such integration and possible solutions using off-the-shelf technology. Finally, the chapter identifies open research areas in the domain of using blockchain in intermittently connected network environments that would foster new research avenues in both industry and academia.

3.1 Introduction

Blockchain [1–3] technology represents a technological innovation that is supposed to alter our lives in several aspects like the way we conduct business, manage assets, use machines, visit hospitals, cast votes, rent cars and even prove our identity. Apart from these traditional and urban applications, other specialized blockchain use cases can be disaster management, remote healthcare in developing countries, vehicular communications or even deep-space communications. However, in one hand, these specialized use cases are characterized by absence of traditional communication infrastructure, intermittent connectivity and disconnection of devices due to limitations of power, node mobility and sparse node density. On the other hand, the usage of blockchain is restricted by the user's access to end-to-end internet connection. This limitation restricts the use cases to access blockchain and prevents its adoption in intermittently connected network environments. In fact, reliance on the internet is

S. Basu (⋈)

Heritage Institute of Technology, Kolkata, India

e-mail: souvik.basu@heritageit.edu

S. Chowdhury

University of Engineering and Management, Kolkata, India

e-mail: soumyadip.note@gmail.com

S. Das Bit

Indian Institute of Engineering Science and Technology, Shibpur, India

e-mail: sdasbit@yahoo.co.in

© The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2021 S. Patnaik et al. (eds.), *Blockchain Technology and Innovations in Business Processes*, Smart Innovation, Systems and Technologies 219, https://doi.org/10.1007/978-981-33-6470-7_3