



Digital Payments and Digital Currency: Challenges & Solutions for India

Overview

This course focuses on the fundamental understanding of digital methods and techniques for managing money in general and currency in particular. Most financial institutions, such as banks, investment companies, and insurance companies are built around 'paper currency' and its integration into the computer based systems for managing customer needs. However, as time has progressed, computer based systems have disrupted these traditional institutions in a big way. The value proposition provided by banks earlier (security, access, convenience) are either not valid anymore due to technological advances or have given way to new solutions that are innovative and efficient. For example, lenders and borrowers don't need an intermediary such as a bank to facilitate their transactions. On-line financial institutions can provide a platform for lenders and borrowers to negotiate the best deals for them.

The major topics pertaining to digital payments are Digital payments for transactions of small & large amounts; Risk & benefit assessment associated with digital payments; Context specific solutions for Indian environment (diversity of languages, telecom infrastructure, social awareness & acceptance); Digital payments as a vehicle for delivering resource efficiency; and Digital payments for smart cities, urban planning, and rural living in India.

Whereas, the topics related to digital currency are Blockchain technology as foundation of digital currency; Why 'blockchain' technology is gaining ground? Digital currency as an application of blockchain; Developing deeper understanding of digital currency & its applications; Future of digital currency for Indian environment; Context specific solutions for Indian environment (levels of computer adoption, telecom infrastructure, social awareness & acceptance); Digital currency for resource efficiency and smart cities and urban planning.

Further, Innovative thinking and having a sense of Indian social context would be the key to this course. Practical aspects of innovation and new solutions for digital payments including other key functions such as micro-lending and borrowing will also be discussed.

Objectives

The Key objectives for this course are as follows:

- To gain knowledge of digital technologies as applied to payments and currencies, collectively called 'fintech'.
- To gain knowledge of technology framework for fintech.
- To harness the power of human innovation & technology for fintech.
- To appreciate disruptions that can be brought to fintech and how to benefit from it.
- To acquire knowledge of a deep understanding of Indian societal & economic aspects.
- To acquire the confidence & competence in starting a new fintech enterprise.

Course Information	Duration: 20th February 2023 – 25th February 2023 (Offline Mode) Place: Department of E&I Engg., NIT Silchar, Assam, India Total Contact Hours: 14 hrs Lecture and 2.5 hrs Tutorials
Who can attend	<ul style="list-style-type: none"> ▪ Students at all levels (BTech/MSc/MTech/PhD). ▪ Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories. ▪ Faculty from academic and technical institutions. ▪ All those who are planning to have startups. ▪ Others who want to learn the basic and advanced concepts dealing with technology based enterprises and entrepreneurship related activities.
Registration Fee	<ul style="list-style-type: none"> ▪ Participants from abroad: USD 250 ▪ Industry/ Research Organizations: Rs. 5000/- ▪ Academic Institutions <ul style="list-style-type: none"> ○ Faculty: Rs. 2000/- ○ External Students: Rs. 500/- ○ Internal PG & PhD Students: Rs. 500/- ○ Internal UG Students: Nil <p>Pay the requisite Course Fee online through the online payment SBI Collect Portal at SBI (https://www.onlinesbi.sbi/sbicollect/icollecthome.htm) SBI collect> Accept> Assam> Educational Institutions> Online Fee Collection Account NIT Silchar> Select Category GIAN COURSE REGISTRATION FEE and fill necessary fields and proceed for payment.</p> <p>The above registration fee is towards instructional materials, computer use for tutorials, 24 hr. free internet facility, high refreshments etc. The outstation participants will be provided twin sharing accommodation on payment basis in Institute Guest House on availability.</p> <p>Number of participants for the course will be limited to fifty.</p>
Important Dates	Last date of Registration: 13th Feb, 2023. Confirmation by e-mail: 14th Feb, 2023.

The Expert



Dr. Hari Krishna Garg is currently working as an Associate Professor in Department of Electrical & Computer Engineering, NUS Singapore. He obtained his BTech degree in electrical engineering from IIT Delhi, India, in 1981, and ME & PhD degrees in electrical engineering from Concordia University, Canada, in 1983 and 1985, respectively. He also obtained his MBA degree from Syracuse University, USA, in 1995. Dr. Hari has been affiliated with Syracuse University, USA, National University of Singapore, Singapore, and Philips Consumer Communications, USA in various academic and industrial positions. He has extensive experience in academic work, leadership, and research supervision. He held a senior position in a product development team during his industrial affiliation. His areas of interests are wireless/mobile telecoms (research & enterprise), signal & image processing, technology entrepreneurship, and enterprise & start-ups.

Dr. Hari has extensive research experience in his areas of expertise. He has published over 150 journal and conference papers, 4 books, and over 10 patents granted in USA, India, Singapore, and Australia. In addition, Dr. Hari has worked as consultant to companies providing expert guidance on patent and other technology related matters. He is also an entrepreneur and has founded multiple technology companies namely YuViTime Pte Ltd., Manovega Communications Pte Ltd., Fatte Telecom Pte Ltd. and Purple ACE Pte Ltd. He is also a recipient of numerous awards namely:

- Received FA Gerard prize for the year 1983 awarded to the most deserving graduate of Master of Engineering program at Concordia University.
- SIMagine 2002, Cannes, France(Worldwide GSM Developer contest organized by SchlumbergerSema, Samsung, Telefonica Moviles and Orange): Won Bronze Medal & euro € 10,000 winner. Name of entry: Peer-2-Peer Advertising Platform.
- SIMagine 2003, Cannes, France(Worldwide GSM Developer contest organized by SchlumbergerSema, Samsung, Telefonica Moviles and Orange): Won Telefonica Moviles Award. Name of entry: JustDial.

He has also been conferred with major grants for his outstanding contribution. They are:

- **SeSaMe Center:** One of the 4 principal investigators (PI) on a grant awarded by NRF (National Research Foundation) for research work on sensor-based cyber-physical systems, funding amount: Singapore \$ 10,000,000 (ten million), 2012-2017.
- **PI:** Ministry of Education, Singapore grant, entitled, "Design & Implementation of Robust Multiple-Input Multiple Output (MIMO) Orthogonal Frequency Division Multiplexing (OFDM) Transceiver for 4G Wireless Communication," funding amount: Singapore \$ 129,500, 2007-2010,.
- **PI:** Ministry of Education, Singapore grant, entitled, "Design of High Precision Localization & Range Extension Techniques for Ultra-Wide-Band (UWB) Wireless Communication Networks," funding amount: Singapore \$ 260,000, 2007-2011.

He is also listed in: Who's Who Among Young Rising Americans, 1990 and Who's Who in the World, 1998.

Course Co-ordinators



Dr. Ranjay Hazra is currently working as Assistant Professor in the Department of Electronics & Instrumentation Engineering, NIT Silchar, Assam, India since August, 2016. He completed his Ph.D degree from IIT Roorkee in 2016. His research interest includes 5G and beyond communication, IoT & IIoT Communication, V2X communication, Image Segmentation models for real-time and medical applications, Medical Imaging, Signal Processing and its application in Biomedical and BCI, Machine Learning, Deep Learning and its applications in Healthcare, Communication and Signal Processing. He has published over 40 research articles till date. He has also been granted 1 Australian and 1 German Patent. He is an active reviewer of various reputed journals and has reviewed more than 50 papers till date. He has already supervised 3 Ph.D students in the area of Wireless Communication, Signal and Image Processing.



Dr. Arun Kumar Sunaniya is working as Assistant Professor in the Department of Electronics & Instrumentation Engineering, NIT Silchar, Assam, India since 2014. His research interest includes Solar Cell, Devices and Image Processing. He has already supervised 2 Ph.D students in his domain and has published over 20 research papers till date.

Course Co-ordinators

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For details: Please click on
<http://www.gian.iitkgp.ac.in>

For registration: Please
click on
<http://www.gian.iitkgp.ac.in/GREGN/index>

Course Outline

- Digital payments: Introduction
- Digital payments: Value Creation
- Design-Thinking Methodology
- Digital technologies & Biometrics: Pros & cons for India
- Economics to technology
- Case study on Indian digital payments provider
- Digital payment technologies & regulatory policies in Indian context
- Existing financial institutions & market disruptions: seizing an unmet need
- Designing Digital Money 1
- Designing Digital Money 2
- Blockchain: Technology
- Blockchain: Economic principles
- Bitcoin: Introduction to disruptive method
- Bitcoin comparison with other private digital currencies
- Product Planning, Platform & Architecture
- Future Technologies, knowledge based economy and market trends
- Planning for the future

Expected Outcome

Upon successful completion of this course the participants should be able to:

- Conceptualize a digital payment solution customized to their needs;
- Develop a digital payment solution customized to the needs of their constituents;
- Understand digital currency; and
- Comprehensive and realistic view towards digital currency and its applications: Indian systems, economics, and financial environments.

About Silchar

Silchar is the second largest town in the state of Assam. It was the kingdom of the Kachhari kings from 1755 to 1830. It was annexed to the British East India Company in 1833. The city has now attained a cosmopolitan status with inhabitants from all over India although Bengali speaking people constitute the majority. It is an educational and business hub in North East India next to Guwahati. Aesthetically the campus is very beautiful with greeneries and wet lands. During the month of July-August the weather in Silchar is quite humid. During this period, the average high is 35°C and the average low is 25°C.



How to reach NIT Silchar

The city is well connected by Road, Train and Air. There are direct flights from Kolkata and Guwahati and trains from New Delhi, Kolkata, Guwahati, and Agartala. Daily bus services are available from Agartala, Guwahati, Aizawl, and Imphal. The Institute is located around 35 kms from the Silchar airport, 10 kms from the Silchar railway station, 14 kms from ISBT Silchar, and 8 kms from the heart of the Silchar town. Pre-paid taxi and auto services are available from Silchar.



GIAN Course
On
Digital Payments and Digital Currency: Challenges & Solutions
for India
Registration Process

Registration Guidelines (Step-by-Step):

1. First, 'web register' at GIAN 'Courses Registration Portal': <https://gian.iitkgp.ac.in/GREGN/index> by paying the requisite amount in the GIAN portal. This is not the GIAN course fee which you intend to attend. If you're already registered in GIAN portal then skip this step.
2. Next, log into the GIAN portal and click 'Course Registration' tab on the GIAN Portal, and 'check box' to select this course (#191031N01) "Digital Payments and Digital Currency: Challenges and Solutions" from the list. Click 'save' to register, and 'Confirm Course(s)' to confirm.
3. Now, pay the requisite Course Fee online through the online payment **SBI collect portal at State Bank of India** (<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm>) by following the procedure as stated earlier. You'll need this in the next step. Also, please retain the receipt for on-spot submission.

Or,

Pay through online banking to: The Director, NIT Silchar, A/C No: 10521277057, IFSC Code: SBIN0007061, MICR Code: 788002004.

(Keep the payment details (Transaction ID & date) for filling up the registration form)

4. Post payment, fill up the "Signed Registration Form".
5. Next, email the following: (i) Registration form, (ii) Payment proof, (iii) Scan copy of valid Identity card/bonafide letter (in case you are a student), to Course Coordinator, at: ranjay@ei.nits.ac.in. (This is for the Course Coordinator's record. You will get an acknowledgement within 48 hours).
6. Next fill out the Google form here: <https://forms.gle/szGE4VeJKqmoRpbB9>, and click 'submit'. This is for the Course Coordinator's record.

P.S. Registering on the GIAN portal does not guarantee participation in the course. Please do not confuse web registration with course registration. You might have been 'shortlisted' after paying the 500/-, but your selection is subject to paying the requisite course fee to NIT.

For queries and clarifications, write to the Course Coordinator at: ranjay@ei.nits.ac.in

N.B: Please retain the original receipt of the payment and one photocopy for on-spot submission/verification.

GIAN: Global Initiative of Academic Network

Course: Digital Payments and Digital Currency: Challenges & Solutions for India

(Course ID:# 191031N01)

20th February - 25th February, 2023

Place: Dept. of E&I Engg., NIT Silchar

REGISTRATION FORM

GIAN Portal Application Number:

Full Name:

Category: (Industry/Academic/Student)

Organization:

Address:

Email Id:

Mobile Number:

Highest Academic qualification:

Payment option and details:

Online transaction

Transaction Id/ Ref. No.	Bank	Date	Amount

Accommodation Required: Yes/No (*please tick in the applicable field*)

Date:

Place:

Signature of Applicant