

# Jharana Rani Rabha

Nationality: Indian      Sex: Female      Status: Married      Phone: +918486610591  
Email: [rani\\_rabha@iitg.ernet.in](mailto:rani_rabha@iitg.ernet.in)      Web: <https://scholar.google.co.in>      Skype: jharana.rani  
Vill: House no.06, Borbari, No2 Hengerabari LP School, Dispur, Guwahati, Assam, Pin: 781036, India

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## About Me!

Hi! I am Jharana Rani Rabha, a role player with Sr. Scientist at IIT Guwahati and a National Oversea Awardee (Provisional). Academically excel and hold several Merit Scholarship by States and National. Motive to become an Excellent Researcher and to a career with Specialization of Computer Vision and Image Processing and Video etc. Currently, I am working with a Research Project for Startsup, India: Healthcare and Education Empower and Industrial – Manufacturer etc. Looking for [PhD, Director, Chief Scientist and Chief Technical Officer and Founder and Owner of New Technology ideas.](#)

## RESEARCH INTEREST AND SPECIALIZATION:

Image-Video Processing, Computer Vision, Computer Graphics, 3D Perception, Visual Psychophysics, Recognition and Learning, Deep Learning, Human -Machine Interface, Geometry, Virtual –Reality, Digital Design and Embedded System, VLSI, Video Coding, System Design, Data Structure, Processor Design, Coding, Microprocessor, Communication System with Wireless, 3D Vision and Perception etc.

## INTERNATIONAL AWARD AND SCIENTIFIC AWARD AND MEDIA:

- 🏆 Honoris Causa Doctorate (Ph.D) Award in Electronics and Telecommunication Engineering, 2020-2021. Provisionally Awarded By Commonwealth Vocational University, Kingdom of Tonga
- 🏆 International Research Awards on Science Health and Engineering as Women Researcher Award By Sciencefather International Conference, SHEN, 2021.
- 🏆 InSc Research Excellence Award, 2020 by Institute of Scholars, India
- 🏆 International Educational Award, 2020 as Educational Counsellor by Kiteskraft Productions
- 🏆 Forever Star India Award, India 2020 as The Real Super Women, 2020

## AWARD & ACHIEVEMENT & SCHOLARSHIP:

- 🏆 “National Oversea Scholarship, 2014-15” - Govt. of India, India – A Prestigious Highest Student Award with an Award Value Full –Funding Fees and Rs. 5200000/- for enrolling an oversea PhD course (received by 2016 and enrolment before April, 2019).
- 🏆 Merit Scholarship Awarded, 1999 – 2000. During 4th, 5th and 6th semester for outstanding performance at Assam Engineering Institute by Director of Technical Education, Assam.
- 🏆 Qualified and selected on merit list, attaining a rank 45 in Assam Polytechnique Admission Test i.e. 7th in Caste Category State Rank”.
- 🏆 “Govt. Caste Scholarship” India, 1997 – 2000
- 🏆 4th -grades at High School, being State Rank for 11th positional on State Bitti Competition.

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## EDUCATION:

- 📚 Master of Science, 2014 GPA 9/10; CGPA 7.6; Percentage: 90%; 03/30 position  
Digital Design & Embedded System - Faculty of Information Science  
Manipal University, Manipal, India
- 📚 3 years Engineering, 2000  
GPA 07/10, 02/30 position  
Electronics & Telecommunication Engineering  
Assam Engineering Institution, Assam, India
- 📚 Class X (SEBA), 1996  
High School Leaving Certificate  
TC Girl's Govt. M. P. H.S. School, Assam, India

## OTHER EDUCATION:

- 📚 AMIE Section A (Professional BTech course) 68/100% Electronic & Communication Engineering  
The Institute of Engineer's, Calcutta, India
- 📚 Certificate program on Computer hardware training and networking, Assam Engineering Institute, Guwahati, Assam.
- 📚 Certificate course on C and C++, Assam Engineering Institute, Guwahati, Assam.
- 📚 1 Year Diploma in Computer Application, EPITOM, Assam, India

## RESEARCH PAPER:

- 📚 International Conference on Aeromechanical Engineering Conference on Technologies, Jan 14-15, 2021, Zurich; "Aero Gas Dynamic Autonomous Propulsion Transport System: A new Beginning with Era". Unregistered.
- 📚 ICIP 2018: 20th International Conference on Image Processing, Zurich, Switzerland, (January, 15 – 16, 2018). "Perception Decision Based Algorithm to Control – Interact a Man –Machine Model: a Visual Context."
- 📚 ICIP 2018: 20th International Conference on Image Processing, Zurich, Switzerland, (January, 15 – 16, 2018), "Video Reconstruction: A Geodesic Technique to Reconstruct Back a Foreground Extraction Scene."

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- ✚ ICIP 2018: 20th International Conference in Image Processing, Zurich, Switzerland (January, 15 - 16, 2018), "An Autonomous Decision Making Algorithm: Analyzing Affected Body Posture, Behavior and Modelling for Cerebral Palsy Hemiplegia in Child."
- ✚ WORLDCOMP'16: 2016 World Congress in Computer Science, Computer Engineering, and Applied Computing, Las Vegas, Nevada, USA (July 25-28, 2016), "Codebook-ViBe: Algorithm and Comparison Detection Analysis on Application at Sport Area"
- ✚ IEEE ICSIPA, 2015: IEEE International Conference SIPA Malaysia, 2015, "Background Modelling By Codebook Technique for Automated Video Surveillance with Shadow Removal"

## MAJOR PROJECTS:

- ✚ Study of a Propeller: Aircraft Longitudinal Control with MATLAB Simulink– (MTech Thesis, 2018 submission) Background Modeling by Codebook Technique for Automated Video Surveillance – A final year dissertation project for Master of Science in 2014. Under the guidance of Prof. M.K.Bhuyan, Indian Institute of Technology, Guwahati, India
- ✚ Codebook technique for the Background Subtraction in Video sequence for Video Surveillance” – A study report. Term Paper –II for semester – II, 2012. Manipal University, Manipal, India
- ✚ Vision Based Localization for an Unmanned Aerial Vehicle (UAV) by Features Matching Technique for an Uncertain Landing. Term Paper –I for semester –I, 2011. Manipal University, Manipal, India.
- ✚ Design and Bring Prototype on Project Role: Designing a Caller ID by using LCD – A real-time hardware based project. Under the guidance of Mr. S. Rehman, Assam Engineering Institute, Guwahati, India
- ✚ Mains Frequency Monitor – A real-time hardware based project towards the successful completion of Industrial Attachment program, Nettur Technical Training Foundation, Bangalore, India

## REVIEWER:

- ✚ IEEE International Conference on Signal and Image Processing Applications (ICSIPA), MALAYSIA, 2017
- ✚ TRAINING AND CONFERENCES: Certificate of Participation, IEEE Applied Electromagnetics Conference, AEMC 2015
- ✚ Certificate of Participation, Centre For Career Development, IIT Guwahati, India, 2015

## MEMBERSHIP:

- ✚ MEMBER - The Institute of Electrical & Electronic Engineers (IEEE), USA, Oct'2015 –
- ✚ FELLOW MEMBER – Screen Writing Association, Mumbai, India
- ✚ Life MEMBER - InSc, India.

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## INDUSTRIAL ATTACHMENT PROGRAM:

Nettur Technical Training Foundation, Bangalore, India is one of the premiere training institutes in the field of Electronics Market and development. It is a one month long Industrial work and study program in the year of 2000. This training programme covered the following areas – PCB Design and Fabrication Transformation Design and Fabrication PCB Assembly Mechanical Skills Chassis Design and Fabrication Project: Mains Frequency Monitors

## CERTIFICATE ON ENTREPRENEURSHIP:

- Indian Institute of Entrepreneurship, Guwahati, Assam - “Assam as a growing industrial perspective in Textile and Handloom - a contemporary research” in 2002.
- CERTIFICATE OF PLAGIARISM: Department of Instructional Systems Technology, School of Education, Indiana University, Bloomington, USA.

## CURRENT POSITION – I:

- Technical Superintendent, Indian Institute of Technology, Guwahati, India – 2005 to till date. With a 16years + experience Sr. Scientific Positional Role.

Responsibilities: An Active Researcher. Experts in Developing Algorithm and State of Art! Currently, I am developing State of Art and working with different algorithm for Computer Vision, Image Video processing and on Computer Graphics. Working with different problems and doing analysis with Algorithms which is become my research interest and to find its applications and implementation. Developing Algorithm is hobby and joy for my interest.

On Dual Charge/ Special Duty with Allowance: Administration Section with Jt. Registrar – April, 2017 to etc. Salary Modulation and Calculator in Automation etc.

## FOUNDER:

- Setting up and developing new laboratories in department, Electronics & Electrical Engineering,
- IITG System Simulation Lab (50 strength), Core-II - 2005
- Network System Simulation Lab, EEE Extension – 2010
- System Simulation Lab (85 strength), G-Block – 2013
- In-charge for Annual Maintaince Contract - till March'2010-2015
- Designing and Technical and Educational: Perform other Administrative and Academic duty e.g. Student registration, counselling, document verification and placement cell duty etc.
- In-charge - System Simulation (Instructional) Lab, Core-II, Dec'2005 - Dec'2010

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- ✚ Instructional Laboratory with Class Laboratory of BTech and MTech and PhD in Electronics and Communication Engineering.
- ✚ In-charge - System Simulation (Instructional) Lab, G Block, Dec'2010 - Feb'2015
- ✚ In-charge - Communication & Network (R&D) Lab, March' 2013 - contd.
- ✚ In-charge - Multimedia Informatics (R&D) Lab, March'2013 –
- ✚ In-charge - Power Electronics Lab, July'2015 to 2016.
- ✚ Designing of Electrical floor planning and Networking layout.
- ✚ Worked on lab session for National programme Technology Enhanced Learning (NPTEL) E – Learning. Purchasing laboratory and scientific items for Department laboratories.
- ✚ Supporting staff for Instructional and Elective courses laboratories i.e. - Introduction to VLSI, Analog IC, Design, Digital VLSI Design, Digital & VLSI System Design, Control & Instrumentation, Microprocessor Lab, Basic Electronics Lab, Btech design and Project lab., Communication System Design Lab, Signal Processing, Speech Processing, Image processing and Computer Vision etc.
- ✚ Setting up BTP Project Server.
- ✚ Coordinator - BTech Design Project, 2007- 2009 Coordinator - Summer Project, 2005 – 2015.
- ✚ Department Library – Incharge
- ✚ Duty on different workshop, conference and short term course organised by Department.
- ✚ Invigilator duty.

## EMPLOYMENT HISTROY:

- ✚ Faculty at Guwahati Institute of Technology, Noonmati, Assam; 2002 to 2004

Job role: Teaching Graduate and Undergraduate Engineering Student course subject. Some of Subjects are Electronics Device and Circuits, Microprocessor, Digital Design, Embedded System, Communication Engineering, Computer Application etc. IETE UnderGraduate course subject and taking laboratory classes Thesis Guide: Graduate student for Mr. Kalyan Deka.

- ✚ Senior Instructor at Assam Engineering Institute, Guwahati, Assam; 2004 to 2005

Job role: Teaching graduate Engineering course at Electronics and Communication Engineering. Some subjects are Graduate Project, Electronics Workshop, Electronic and Device Circuit, Communication Engineering and Digital Design etc.

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## THEORY AND LABORATORY:

Digital Electronics – I & II, also labs Communication Engineering – I & II, also labs Microprocessor and lab Electronics Device & Circuits – I & II, also labs Elements of Electronics Engineering, also labs Engineering Workshops- carpentry, machine, and blacksmith, mechanical, fitting and electrical. Engineering Drawing Environmental Engineering, Economics & Accountancy Fundamental of Design and Manufacturing Material Science and Engineering Computing and Informatics Society and Environment Data Structures & Algorithms Embedded System Design Digital System & VLSI Design CAD for VLSI & Graph Theory Principle of ASIC Design Systems Software Advanced VLSI Design Real Time Operating Systems Device Drivers Processor Architecture and applications High Level Digital Design & Testing Design using Microcontrollers Image Processing Computer Vision Fuzzy Logic & Neural Networks Speech Processing and Music. System on Chip Integrated Circuit Digital IC Design Graphical User Interface Designing Processor Etc.

## CURRENT POSITION – II:

- 📌 Technical Advisor and Consultant, Research Computer Vision Laboratory Ltd., Guwahati, Assam, India, Pin- 781039. With 2020 to till undergone process. 02 years of experience.

## Job Role:

- 📌 Startup and Developing Medical - Instrument and Manufacturer Technical Experiences and Research and Training etc. Adviser of Company Board and Development State-of-Art etc.

## TECHNICAL SKILL & LANGUAGES:

Understanding of Different tools and Designing and Coding on Tools is a Passion. I acquire knowledge and building Hub of components is like playing Creakers in Diwali. A celebration...!! Excuse is laboratory experiments, who ask me keep doing and continue to achieve.

Languages : Assamese (Native), Hindi (National), English (Communicational)

- 📌 I have a language certificate exemption from Some University, Stanford, Cambridge and Oxford etc.
- 📌 Programming: Scientific C/C++, MATLAB, FORTRAN, Verilog, VHDL, Python etc. scripting Batch file, shell scripts Website: HTML, MySQL
- 📌 Computing software : MS Office, LATEX, Open CV, Dreamweaver

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- ✚ Electronics software: Mentor Graphics- Design Automation Tool, Xilinx – Design Automation Synthesis Tool, MAGIC- VLSI, IRSIM, NGSPICE, COVENTOR, MATHTYPE, PSCAD, Quartus, Exata, QualNet and FPGA etc.
- ✚ Digital Media: Adobe Photoshop and Other Graphic Tools. Operating System: Windows, Linux/Unix, DOS.

### **EXTRA-CURRICULAR ACTIVITIES:**

Champion in Chess at Annual Sports Activity during Engineering study, Badminton, Table Tennis and Driving Four wheeler and Light Vehicle.