

RESUME

Soham Bhattacharya

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Education:

Rowan University, Glassboro, New Jersey, USA **Jan '22 - Present.**
Graduate Research Fellow & Doctor of Philosophy (Ph.D), Electrical and Computer Engineering (Pursuing).

Heritage Institute of Technology, Kolkata, India **Aug' 18-Aug' 20**
Master of Technology (M.Tech), VLSI
9.41/10 DGPA (Bronze Medalist).

Heritage Institute of Technology, Kolkata, India **Aug' 14-Jul'18**
Bachelor's of Technology (B.Tech), Electronics and Communication Engineering
6.89/10 DGPA.

Trainings/Internships: **2016-2022**

- Achieved the opportunity to work in the top-notch institutions of India and an exposure of a wide range of subjects.
- ‘Automatic Ticket Deduction System in Bus's using Arduino Mega as an Undergraduate Final Year Project.
- Learned about different challenges we face during the fabrication of a chip and also about the trends at Heritage Institute of Technology, Kolkata, in terms of a workshop on ‘VLSI Trends and Challenges’.
- Training at Prasar Bharati, All India Radio on ‘Installation of Studios, FM transmitters’ where it was about the usefulness of FM transmitters on car radios, televisions and computers as well.
- Winter Internship at Spatez Technology, LLP on ‘Embedded Systems and IOT’, where it was about hands-on experience on different projects related to Embedded systems and IOT, starting from the projects of LED’s, automatic railway system, and usefulness of the sensors.
- At three premier IIT’s (Guwahati, Bombay and Allahabad) regarding ‘Campus Ambassador Programs’, where it was about gathering knowledge about the soft skills development and enhancement of communication and management skills.
- Internship on ‘Image Processing using MATLAB’ from Pantech Solutions Pvt. Ltd, a Research Institute in Chennai, Tamil Nadu.

Research Work:**Dec'18 – Mar'20*****Rowan University, New Jersey, USA***

- COMPUTER ARCHITECTURE.
- SCALA EMBEDDED LANGUAGE.
- CHISEL HDL LANGUAGE.
- CHIPYARD FRAMEWORK.

Heritage Institute of Technology, Kolkata, India

- VLSI FRONTEND DESIGN: XILINX VIVADO, VHDL (HDL language), VERILOG, CADENCE (simulator), CAMEO SYSML SIMULATOR.
- VLSI BACKEND DESIGN: CADENCE VIRTUOSO FOR SCHEMATIC AND LAYOUT, SPECTRA FOR CIRCUIT SIMULATION, DRC, LVS, EXTRACTION USING ASSURA in Technologies LIKE 180 nm, 45 nm, 28nm.]
- SOFTWARE SKILLS: MATLAB, C LANGUAGE, C++ LANGUAGE.

Work Experience:***Amazon India Pvt. Ltd******Jun'20 - Jul'20***

- VCS Associate.

Vedantu Innovations Pvt. Ltd***Mar'21 – Mar'21***

- Academic Counselor.

DXCorr Design Inc.***Mar'21 - May'21***

- VLSI Engineer.

Rowan University***Jan'22 - Present***

- Graduate Research Fellow.

Publications:**1. Power and Delay Analysis of Logic Circuits Using Reversible Gates.**

Reference:

https://www.researchgate.net/publication/338611099_Power_and_Delay_Analysis_of_Logic_Circuits_Using_Reversible_Gates

2. Truth Table Analysis of Logic Circuits Using Reversible Gates.

Reference:

https://www.researchgate.net/publication/339439715_Truth_Table_Analysis_of_Logi

c Circuits using Reversible Gates

3. Design of Complex Adders and Parity Generators Using Reversible Gates.

Reference:

https://www.researchgate.net/publication/339847422_Design_of_Complex_Adders_and_Parity_Generators_Using_Reversible_Gates

4. Design of Multiplexers, Decoder and Full Subtractor using Reversible Gates.

Reference:

https://www.researchgate.net/publication/339847430_Design_of_Multiplexers_Decoder_and_a_Full_Subtractor_using_Reversible_Gates

5. Comparison of Concurrent Mobile OS Characteristics.

Reference:

https://www.researchgate.net/publication/339847361_Comparison_of_Concurrent_Mobile_OS_Characteristics

6. A Review on Reversible Computing and it's applications on combinational circuits

Reference:

https://www.researchgate.net/publication/352191821_A_Review_on_Reversible_Computing_and_it's_applications_on_combinational_circuits

7. Construction of a Boolean Logic Expression using Reversible logic gates

Reference:

https://www.researchgate.net/publication/356263905_Construction_of_a_Boolean_Logic_Expression_using_Reversible_logic_gates

8. A Comprehensive Review of the Influence of Technology on Psychology

Reference:

https://www.researchgate.net/publication/355124888_A_Comprehensive_Review_of_the_Influence_of_Technology_on_Psychology

9. An analysis and design of an optimized Low-Cost 4X4 Multiplier circuit using Reversible logic gates (Under Review)

Technical Articles:

1. Reversible Computing is an Intriguing Issue in the Advanced Period of Innovation

Reference: <https://www.electronicmedia.info/2021/09/06/what-is-reversible-computing-in-vlsi-and-its-importance/>

2. Quantum Computers Are on the Way!

Reference: <https://timestech.in/quantum-computers-are-on-the-way/>

3. Will Reversible Logic Save Moore's Law? You Weigh the Pros and Cons

Reference: <https://www.designnews.com/electronics/will-reversible-logic-save-moores-law-you-weigh-pros-and-cons>

Presentations:

1. Basic and Complex Circuits Using Reversible Gates

Reference:

https://www.researchgate.net/publication/346678784_Basic_and_Complex_Circuits_Using_Reversible_Gates

Awards, Achievements & Extra Curricular Activities:

- Graduate Research Fellowship Award for pursuing Ph.D, Rowan University, USA (2022).
- Certificate of Merit of 3rd Position Holder in M.Tech (VLSI).
- Reviewer of IEEE ACCESS from 2020.
- Reviewer of THE JOURNAL OF SUPERCOMPUTING (SPRINGER) from 2022.
- Certificate of Reviewer Recognition from IEEE ACCESS.
- ‘InSc Young Researcher Award’ from Institute of Scholars.
- Presenter of ‘Basic and Complex Circuits Using Reversible Gates’ at ‘ICRDASIA Conference 2020, organized by GNITS Hyderabad & IFERP’.
- Certificate of Completion of Webinar & Internship “IMAGE PROCESSING USING MATLAB” from Pantech Solutions Pvt. Ltd.
- Certificate of Membership of Institute for Engineering Research and Publication (IFERP).
- Certificate on ‘Electronic Circuit Fabrication and Testing’ Workshop.
- Certificate of Participation from Texas Instruments in TI-C2000.
- Certificate of Participation from Texas Instruments in TI-MSP.
- Certificate of Participation from Texas Instruments in TI-TIVA.
- Certificate of ‘Interdisciplinary Cyber Physical Systems’ (ICPS) by ‘Centre for Development of Advanced Computing’ (C-DAC).

- Certificate of Selection from Techniche, IIT GUWAHATI.
- Certificate of Selection from Aparoksha, IIIT ALLAHABAD.
- Certificate of Selection from Aakaar, IIT BOMBAY.
- Certificate of '1st' position in Sanskriti (Band Competition), Jadavpur University.
- Certificate of Appreciation on 'VLSI DESIGN AND TECHNOLOGY' quiz by College of Engineering, Nashik.
- Certificate of Duolingo English Test (Score – 120).
- Winner Certificate of 'Independence Day Quiz' on 15th August, 2020.
- Certificate of Appreciation on 'India & its Independence' organized by Ladies Wing of Maulana Azad Students Welfare Association on 15th August, Soha 2020.
- Certificate of Appreciation on 'Online International COVID-19 Awareness Quiz 2020' organized by Rajiv Gandhi University, Arunachal Pradesh, India.