

MUSAIB RAFIQ

215-Western Labs, Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh,
India. Pin Code: 208016. Email: musaib20@iitk.ac.in, musaibrafiq51@gmail.com

ACADEMIC QUALIFICATION

Indian Institute of Technology, Kanpur.

2020-Present

Ph.D. in Electrical Engineering (MVLSDI), ten courses completed with a CGPA of 8.6/10.

National Institute of Technology, Srinagar.

2016-2020

B.Tech. in Electronics and Communication with a CGPA of 8.773/10.

Tyndale Biscoe School, Srinagar.

2003-2015

- Class X (2013): 95.2%
- Class XII (2015): 95%

RESEARCH WORK

Ph.D. -Indian Institute of Technology, Kanpur.

- **M. Rafiq**, T. Kaur, A. Gaidhane, Y. S. Chauhan, and S. Sahay, "Ferroelectric FET Based Time-Mode Multiply-Accumulate Accelerator: Design and Analysis," IEEE Transactions on Electron Devices, Vol. 70, Issue 12, pp. 6613-6621, December 2023.
- **M. Rafiq**, S. S. Parihar, Y. S. Chauhan, and S. Sahay, "Efficient Implementation of Max-Pooling Algorithm Exploiting History-effect in Ferroelectric-FinFETs", IEEE Transactions on Electron Devices, Vol. 69, Issue 11, November 2022.
- M. Jain, R. K. Singh, **M. Rafiq**, and S. Sahay, "Hybrid CMOS-Ferroelectric FET-Based Image Sensor With Tunable Dynamic Range," in IEEE Transactions on Electron Devices, vol. 71, no. 1, pp. 624-629, Jan. 2024.
- **M. Rafiq**, Y. S. Chauhan, and S. Sahay, "Exploiting Single Ferroelectric FET for Efficient Implementation of Majority Gate Function for Approximate Computing," IEEE Electron Devices Technology and Manufacturing Conference (EDTM), Bengaluru, India, Mar. 2024

INTERNSHIPS/ INDUSTRIAL TRAINING

- **Department of Electronics Systems Engineering, Indian Institute of Science Bangalore (Research Project Intern)**
Dec 2018 – Feb 2019

UG PROJECT

- **Analysis of GaN Double Channel HEMTs using Silvaco TCAD.**
National Institute of Technology Srinagar, February 2020 – June 2020

TECHNICAL SKILLS

- **HSPICE**
- **Python**
- **IC-CAP**
- **Sentaurus TCAD**
- **MATLAB**
- **Verilog**
- **Verilog-A**

AWARDS AND ACHIEVEMENTS

- Ranked among the top three students in terms of CGPA in the Electronics & Communication branch at NIT Srinagar.
- Secured 15th rank statewide in the Higher Secondary examination.
- Secured 20th rank statewide in the Secondary Examination.
- A Silver and Bronze Awardee student volunteer at the International Award for Young People (Duke of Edinburgh's International award) between 2012-2015.