

Dewansh Raj

LinkedIn Profile

Email : devanshraj1998@gmail.com

Mobile : +91 7295003593

EDUCATION

- **B.Tech + M.Tech (Integrated Dual Degree) in Electrical Engineering**
Indian Institute of Technology, Kharagpur; GPA: 8.92 *2017 - 2022*

EXPERIENCE

- **Digital Design Engineer - Analog Devices**
Bengaluru, India *June 2022 - Present*
 - Developed System C models for existing RTL systems. Implemented system-level models and Conducted simulations, debugging and tests to validate and refine the System C models. Documented the modeling process and provided support to project teams.
 - Design owner for QSPI (Quad SPI), SPI, I2C and UART (Universal Asynchronous Receiver-Transmitter). Successfully integrated them into system-level architecture. Provided support and implemented bug fixes related to the integrated blocks.
 - In charge of design changes and feature additions for QSPI block. Implemented numerous design changes and new feature additions into the QSPI block, and conducted rigorous testing and debugging of all the implemented design changes.
 - Working on understanding PMU (Power Management Unit) design and low power design strategy, studied the various components and functionalities of the PMU. Analyzed PMU bugs and executed effective design changes to rectify the identified bugs.
- **Interim Engineering Intern - Analog Devices**
Bengaluru, India *May 2021 - July 2021*
 - Developed Hardware accelerator for IIR (Infinite Impulse Response) filters. Designed a parallel computing architecture, optimizing the computation time from $5n$ to $n+2$ cycles.

PROJECTS

- **Real Time Aggression Detection in Dyadic Communications**
Kharagpur, India *September 2020 - March 2021*
 - Worked on overlapped speech detection and automatic speaker identification using GIF (Glottal Inverse Filtering) and Extended Kalman Filter. Utilized MFCC (Mel Frequency Cepstral Coefficients) to extract features from recorded audio files and developed a classification model for detecting the aggression state of the speaker. Developed a real-time aggression detection Android app using Android Studio.
- **Improving Transient Response in Current Mode Buck Converter**
Kharagpur, India *September 2021 - March 2022*
 - Designed a high-speed current mode Comparator in Cadence Virtuoso using the UMC 180nm technology, for quick detection of transient conditions in Buck converter. Improved the transient response of buck converter by development of an auxiliary path, to provide current to the output load during transient load conditions.

EXTRA-CURRICULAR ACTIVITIES

- **NCC EME CORPS** : Participated in various drills and training, organized multiple cleanliness, tree plantation and blood donation drive ; awarded with NCC B Certificate. 2017-2018
- **KRSSG** : Part of Kharagpur Robosoccer Students' Group, designed autonomous bots capable for playing soccer. Participated and Qualified in RoboCup SSL and 3D Simulation League. 2018-2020

PROGRAMMING SKILLS

- **Languages:** C, C++, Verilog, System Verilog, Java, Python
- **Tools:** Spyglass Lint, Spyglass CDC, Simvision, MATLAB, Simulink