

## EDUCATION

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- **Indian Institute of Technology Bombay** Mumbai, India  
*Bachelor of Technology in Electrical Engineering and Minor in Computer Science ; CPI: 9.57/10 (2017-2021)*

## PUBLICATIONS

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- [Generalized Fractional Ambiguity Function and Its Applications](#)  
Peeyush Sahay, Izaz Ahamed Shaik Rasheed, Pranav Kulkarni, Shubham Anand Jain, **Ameya Anjarlekar**, P. Radhakrishna Vikram M. G Circuits, Systems, and Signal Processing, Springer.
- [Generalized Fractional Matched Filtering and its Applications](#)  
P. Sahay, **A. Anjarlekar**, S. A. Jain, P. Radhakrishna and V. M. Gadre, Generalized Fractional Matched Filtering and its Applications, 2020 National Conference on Communications (NCC), Kharagpur, India, 2020, pp. 1-6.

## RESEARCH AND TECHNICAL PROJECTS

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- **Generalized Time-Frequency Transform in Radar** IIT Bombay  
*Guide: Prof. V.M. Gadre, Mr. Peeyush Sahay(DRDO) (April 2019 - July 2019)*
  - Proposed **Generalized Frequency Ambiguity Function** and derived relevant properties. It was further applied for the parameter estimation of cubic chirp signals
  - Proposed envelope correlation using double chirp technique through which object parameters like acceleration, velocity and position of the object can be more accurately found out using Generalized Time-Frequency Transform
  - Proposed Adaptive Generalised Fractional Spectrogram for analysing multicomponent frequency modulated signal
- **Supervised Detection of Tennis Ball from Camera Stream [Doc][Code]** IIT-B Mars Rover Team  
*University Rover Competition(URC 2019) (Aug 2018 - present)*
  - Working towards the ball detection sub-task required for target detection in autonomous operations of the rover
  - Created a dataset comprising of over 80,000 examples and further refined using **Data Augmentation** procedures
  - Each test image was pre-processed using **circular hough transform** to extract features regarding shape
  - Devised a model algorithm for the task which comprises of using **transfer learning** by initially training on a tennis match dataset and then transferring the trained weights to re-train on the generated dataset
- **Image Reconstruction for Parallel MRI [Doc][Code]** IIT Bombay  
*Guide: Prof. V.M. Gadre (September 2018 - June 2019)*
  - Implemented a modified version of the GRAPPA algorithm on **SDK** for image reconstruction during **Parallel MRI** technology which would be used in the indigenous state of the art MRI machine developed at IIT Bombay
  - Estimated the dependancy of neighbouring pixels by using a modification of the linear least fit method
  - Tested the algorithm on Matlab and then implemented on Xilinx Zynq-7000 FPGA Board
  - Awarded the **Undergraduate Research Award(URA)** by IIT Bombay for this notable contribution

## SCHOLASTIC ACHIEVEMENTS

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- Received **IRCC Award** for excellent R&D work in Radar Signal Processing [2019]
- Awarded **Undergraduate Research Award (URA)** by IIT Bombay for contribution to development of MRI [2019]
- Secured an **AP** grade (awarded to less than 1% students) in course on differential equations (MA 207) [2018]
- Secured an All-India Rank **132** in **JEE - Advanced** and an All-India Rank **215** in **JEE - Main** [2017]
- Awarded fellowship by the Indian Institute of Science (IISc), Bangalore for securing an All-India Rank of **243** in **KVPY**(Kishore Vaigyanik Protsahan Yojana)out of around 80,000 students [2017]
- Placed among the top 500 students of the nation to be selected for the **Indian National Maths Olympiad** [2015]

Link to my extended CV:

<http://ameyanjarlekar.github.io/files/3pg.pdf>