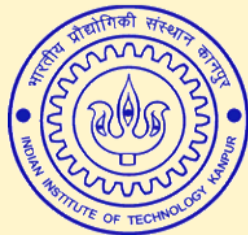


Organized by Prof. Aditya K. Jagannatham, EE Department, IIT Kanpur

PYTHON + MATLAB-Based Summer Research School on Convex Optimization for  
Machine-Learning and 5G Wireless Technology 14<sup>th</sup> to 27<sup>th</sup> June 2021

## PYTHON + MATLAB-Based Summer Research School on Convex Optimization for Machine-Learning and 5G Wireless Technology



### Important Dates

#### Course Dates

14<sup>th</sup> to 27<sup>th</sup> June, 2021

#### Last Date for Registration

04<sup>th</sup> June, 2021

#### Venue

To be conducted online via  
Zoom

#### Contact

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### Introduction

Welcome to the IIT Kanpur Summer Research School (SRS) on PYTHON + MATLAB for *Convex Optimization Applications in Machine Learning and 5G Wireless Technologies*. Convex Optimization techniques are key enablers for 5G networks, advanced signal processing, machine learning and big data solutions. This summer school is a valuable resource for engineers, data scientists, faculty, UG/PG students and PhD scholars to acquire the necessary skills for research and industry applications in next generation 5G wireless system optimization, sparse signal processing, machine learning and data analytics. This cutting-edge program will feature exhaustive PYTHON and MATLAB projects for various case studies such as *Linear Regression, Compressive Sensing, Support Vector Machines (SVM), Massive MIMO, mmWave MIMO*. Participants will also be given in-depth exposure to the modern PYTHON and MATLAB programming languages and the *CVX optimization package*.

Keeping in view the convenience of students, faculty and working professionals, the programs will be held on evenings and weekends. A distinguished expert lecturer will present perspectives on the latest research and applications. The training modules and projects in PYTHON + MATLAB on Convex Optimization for Machine Learning and 5G technology can greatly benefit participants of all backgrounds as described below.

#### How does this program benefit YOU?

- **UG/ PG students:** Learn the latest programming techniques in PYTHON, MATLAB together with principles of 5G technology for projects/ thesis and also gain an edge the job market!
- **PhD Scholars/ Faculty members:** Advance your research to the next level with PYTHON and MATLAB programming skills and also establish labs or guide projects based on PYTHON and MATLAB programming for 5G!
- **Industry and R&D personnel:** Enhance your skills by learning about the principles and algorithms for 5G technology along with highly efficient implementation of these technologies using PYTHON and MATLAB program modules!

Master the latest 5G Technology and PYTHON/ R Programming to advance your career!

#### About the Trainer



Prof. Aditya K. Jagannatham is a Professor in the Electrical Engineering department at IIT Kanpur, where he holds the Arun Kumar Chair Professorship, and is a well known expert and trainer on 5G technologies. He received his Bachelors degree from the Indian Institute of Technology, Bombay and M.S. and Ph.D. degrees from the University of California, San Diego, U.S.A. From April '07 to May '09 he was employed as a senior wireless systems engineer at Qualcomm Inc., San Diego, California, where he was a part of the Qualcomm CDMA technologies (QCT) division. His research interests are in the area of next-generation wireless networks, with special emphasis on various 5G technologies such as massive MIMO, mmWave MIMO, FBMC, NOMA, Full Duplex and others. He has published extensively in leading international journals and conferences. He has been recognized with several awards including the CAL(IT)2 fellowship at the University of California San Diego, Upendra Patel Achievement Award at Qualcomm, P.K. Kelkar Young Faculty Research Fellowship, Qualcomm Innovation Fellowship (QInF), Arun Kumar Chair and the IITK Excellence in Teaching Award.

#### Target Audience

- UG/ PG Students, PhD Scholars, Faculty and Professionals

For more details and registration information, visit the website  
<http://www.iitk.ac.in/mwn/SRS/>