

# Salmān Naqvi



**Graduate Institution:** Stanford University

**Location:** Stanford, CA

**Graduate Discipline:** Electrical Engineering

**Hometown:** Kearny, NJ

## Research Interests:

*My passion is in fusing environmental research and electrical engineering. Thus at NJIT, I have been working on using ground laser remote sensing and applications of signal processing and optics to study the impacts of urban areas on global atmospheric circulation. This involves using an ultraviolet laser Light Detection and Ranging (LiDAR) system to study atmospheric density in the troposphere above the New York City to detect atmospheric gravity waves generated due to urban heat circulation. I was involved in LiDAR design, development, operation and data analysis, and this project gained considerable attention from the U.S. Air Force and NSF. This experience enabled me to pursue a satellite remote sensing research experience with National Oceanic and Atmospheric Association (NOAA). At NOAA, I analyzed the urban nightlights of the earth using visible and infrared images captured from satellite-based radiometers. I created an algorithm that processes the change in urban nightlights over time to correlate with the population growth. At Stanford, I plan to fuse my remote sensing experience with my interests in electromagnetics to better understand earth's space weather through research with the Ionospheric Research group.*

## About me:

*I chose to study Electrical Engineering at NJIT after having completed University of Cambridge, UK, Advanced Level high school diploma in pre-engineering. My interest in environment and technology began during my stay in Pakistan during high school. The alarming lack of concern there towards environmental deterioration and labor abuse made me an environmental activist and a community welfare volunteer. My undergraduate research has thus focused on using applications of electrical engineering to understand the environmental impacts of growing urbanization. Alongside academics, I am a nimble sportsman, singer, coin/stamp/antique collector, and a computer programmer. I participate in NJ cricket league matches, and sing Urdu panegyrics at local community gatherings. I enjoy participating in student clubs and organizations to engage in extensive community service and to adapt leadership roles. I have been the Vice President of the Tau Beta Pi and Eta Kappa Nu, National Engineering and Electrical Engineering Honors Societies respectively. I also founded the youth Rotary Club at NJIT and organized various service events, including tutoring, and clean up.*



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science