



Imtiaz Nabi

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Nowshera (Pakistan)

ABOUT ME

I'm Imtiaz Nabi, a results-driven professional with a strong background in GNSS research and development. I'm eager to pursue a Ph.D. and collaborate with esteemed advisors and organizations to make meaningful strides in satellite navigation and beyond.

EDUCATION AND TRAINING

MS GNSS

Institute of space technology [12 Sep 2019 – 22 Aug 2022]

Address: Islamabad Highway Toll Plaza, 1 Islamabad Expressway, near Rawat, Sector H DHA Phase II, Islamabad,, 44000 Islamabad Capital Territory (Pakistan)

Website: <https://www.ist.edu.pk/>

Field(s) of study: Global Navigation Satellite Systems

Final grade: 3.70

Thesis: Vulnerability Assessment of GNSS L1 Frequency Through Simplistic Spoofing Attack

I studied Global Navigation Satellite Systems during my MS degree at the Institute of Space Technology. The primary subjects covered in my MS GNSS degree are as follows:

1. **GNSS Fundamentals**
2. **GNSS Receivers**
3. **GNSS Applications**
4. **GNSS INS Integration**
5. **GNSS Mathematics and Position Determination Techniques**
6. **GNSS & Space Weather Monitoring**
7. **GNSS Navigation Signal Processing**

BS Physics

Abdul Wali Khan University Mardan [19 Aug 2014 – 19 Aug 2018]

Address: Nowshera Road, College Chowk, Muslimabad, Mardan, Khyber Pakhtunkhwa, 23200 Mardan (Pakistan)

Website: <https://awkum.edu.pk/>

Final grade: 2.88

During my BS Physics Degree I studied the following core subjects:

1. **Waves and Oscillations**
2. **Mechanics I & II**

3. **Classical Mechanics**
4. **Heat and Thermodynamics**
5. **Plasma Physics**
6. **Laser and Applications**
7. **Nano Technology and its Applications**
8. **Quantum Mechanics I & II**
9. **Electrodynamics I & II**
10. **Electromagnetic Theory (EMT)**
11. **Electronics**
12. **Introduction to Computer**
13. **Introduction to C++ programming**

FSc Pre-Engineering

Shaheen Inter College Risalpur, Nowshera [11 Jan 2012 – 31 Dec 2013]

Address: PAF Academy Asghar Khan, Risalpur Cantt, Nowshera, 24090 Nowshera (Pakistan)

Secondary School Education

Hira Public School and College Nowshera [2009 – 2012]

Address: Main GT road near new bridge, Nowshera Kalan, tehsil and district Nowshera , 24100 Nowshera (Pakistan)

PROJECTS

Multi-Frequency Multi-GNSS Signal Simulator

[2022 – Current]

In progress a hobby project in Python

FM Reciver Design in GNU Radio

Designed an FM radio in GNU radio platform using RTL SDR dongle and HackRF One

GNSS Based Fleet Tracking and Management System

Built a tracking device for fleet vehicles for assets tracking and driver behavior monitoring using Arduino, SIM808, and MPU6050

ADS-B Signal Acquisition Using RTL-SDR

GPS L1 C/A Spoofing Signal Generator in MATLAB

GNSS/IMU Based Live Stock Management System

Machine Learning Based GNSS Structured Interference Detection System

WORK EXPERIENCE

Graduate Research Assistant

National Center of GIS and Space Applications (NCGSA) [25 Sep 2021 – 10 May 2022]

City: Islamabad

Country: Pakistan

- Leading GNSS-Based Projects
 - GNSS Spoofing & Anti-Spoofing
 - Intelligent Traffic Monitoring
 - GNSS RAIM
 - Space Weather & Ionospheric Monitoring
- Teaching Assistant (MS GNSS Program)

Research Assistant

National Center of GIS and Space Applications [11 May 2022]

City: Islamabad Capital Territory

Country: Pakistan

- GNSS Lab Team Lead
- Leading GNSS-Based Projects
 - GNSS Spoofing & Anti-Spoofing
 - Intelligent Traffic Monitoring
 - GNSS RAIM
 - Space Weather & Ionospheric Monitoring
- Space Education and Awareness
- Educating Young Graduates on GNSS Equipment
- Conducting GNSS Labs for Students

LANGUAGE SKILLS

Mother tongue(s): **Pashto**

Other language(s):

English

LISTENING C1 READING C2 WRITING C2

SPOKEN PRODUCTION C1

SPOKEN INTERACTION C1

Urdu

LISTENING C2 READING C2 WRITING C2





SPOKEN PRODUCTION C2

SPOKEN INTERACTION C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Digital Skills - Test Results

 Information and data literacy	ADVANCED	Level 6 / 6
 Communication and collaboration	ADVANCED	Level 5 / 6
 Digital content creation	INTERMEDIATE	Level 4 / 6
 Safety	INTERMEDIATE	Level 4 / 6

Results from [self-assessment](#) based on [The Digital Competence Framework 2.1](#)

My Digital Skills

RTKLib / GNSS data processing / GNSS Localization / Object-Oriented Programming / Software-Defined Radio (SDR) / MATLAB / Python / C++ / Arduino / Machine Learning / Git / Linux / Github / Signal Processing

CONFERENCES AND SEMINARS

International Conference on Aerospace Science and Engineering

[Institute of Space Technology, Islamabad, Pakistan , 14 Dec 2021 – 16 Dec 2021]

Presented Paper: Threats to the Navigation of Drone Based Delivery Services

Authors: Imtiaz Nabi, Salma Zainab Farooq, Sunnyaha Saeed

Organized Technical Sessions and Workshops

Link: <https://ncgsa.org.pk/icasel/>

International Bhurban Conference on Applied Sciences and Technology (IBCAST)

[Bhurban, Pakistan , 12 Aug 2022 – 14 Aug 2022]

Session Attendee

Paper presenter: GNSS Fault Detection and Exclusion Algorithm for Low-Cost Single Frequency Receivers

Authors: Sunnyaha Saeed, Salma Zainab Farooq, Imtiaz Nabi

Link: <https://www.ibcast.org.pk/>

PUBLICATIONS

Evaluation of the weighted least square based Receiver Autonomous Integrity Monitoring (RAIM) for single frequency GNSS receivers

[2022]

GNSS Spoofing Detection Using Machine Learning Techniques

[2023]

Submitted to Journal (Sensors, MDPI)

HONOURS AND AWARDS

IST Full Merit Scholarship

Institute of Space Technology, Islamabad, Pakistan

RECOMMENDATIONS

Associate Professor

Name: Dr. Najam Abbas Naqvi

Email: najam@IST.edu.pk

Dr. Najam Abbas Naqvi has the following key roles currently:

- Chairman of the National Center of GIS and Space Applications
- HOD Space Science, Institute of Space Technology, Islamabad, Pakistan
- Head of GNSS Program, Institute of Space Technology, Islamabad, Pakistan

Link: <https://www.ist.edu.pk/najam-abbas-naqvi>

Assistant Professor

Name: Dr. Salma Zainab Farooq

Email: zaineb@IST.edu.pk

Assistant professor in the Department of Electrical and Electronics Engineering at the Institute of Space Technology, Islamabad, Pakistan.

Link: <https://www.ist.edu.pk/s-zainab-farooq>