

# Michael

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GitHub

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Portfolio

## EDUCATION :

### Master of Science – Computational Science and Engineering

*National University of Science and Technology (NUST), Pakistan*

**Feb 2023 – Jun 2025**

**CGPA: 3.70/4.00**

### Bachelor of Science - Computer Engineering

*Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI), Pakistan*

**Sep 2017 - Jul 2021**

**CGPA: 2.91/4.00**

## INTERNATIONAL EXPERIENCE :




### Erasmus+ Mobility Program – Research Internship

*Frederick University, Nicosia, Cyprus*

**Jun 2025 – Nov 2025 (expected)**

- Conducting independent research on energy efficiency in Large Language Models (LLMs)
- Funded by the Erasmus+ program under the European Commission

## PUBLICATIONS :

1. **S.Munawar**, E. I. Iredia, H. K. Qureshi, C. Chrysostomou, N. Ntetsikas, C. Liaskos, and M. Lestas, “*AoI Analysis of RIS-Assisted Vehicular Networks and the Impact on Cooperative Maneuvers*”, 2025 IEEE Vehicular Technology Conference, VTC2025-Spring, Oslo, Norway, 
2. **S.Munawar**, Z. Ali, M. Waqas, S. Tu, S. A. Hassan and G. Abbas, “*Cooperative Computational Offloading in Mobile Edge Computing for Vehicles: A Model-based DNN Approach*,” in IEEE Transactions on Vehicular Technology, 2022, 
3. O. Saleem, **S.Munawar**, S. Tu, Z. Ali, M. Waqas and G. Abbas, “*Intelligent Task Offloading for Smart Devices in Mobile Edge Computing*,” 2022 International Wireless Communications and Mobile Computing (IWCMC), Dubrovnik, Croatia, 2022, pp. 312- 317, 

## WORK HISTORY :

### Front End Designer

*Well Stuff Industries (Sialkot, Pakistan)*

**May 2022 – Jan 2023**

- Maintained company website and online store

- Improved UI/UX for better customer engagement

### **Data Analytics Consultant**

*ProntoDigital, LLC (Indiana, USA)*

**Nov 2021 – Apr 2022**

- Provided data analytics services and developed data-driven solutions
- Created dashboards and reports for performance tracking
- Implemented and maintained tags of Google Analytics on clients' websites

### **Software Quality Assurance Intern**

*Afiniti Software Solutions Pvt. Ltd. (Lahore, Pakistan)*

**Jul 2020 – Aug 2020**

- Tested software modules and documented results

## **P R O J E C T S :**

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### *Past Projects*

#### **International Airline Management System**

It was developed in C++ using advanced knowledge of Linked Lists, Hash Table, and Dynamic Memory Allocation.

#### **Task and Computational Offloading in Mobile Edge Computing using Artificial Intelligence**

Designed and developed optimal offloading, computing, and receiving schemes to increase service performance, service reliability, and decrease time delay in vehicular networks, which operate via Mobile Edge Computing, this was developed using C++. A Deep Neural Network was trained, validated, and tested by self-derived datasets. The network showed an 84.9% accuracy rate.

#### **2D Space Shooter Game**

A 2D space shooter game where a player controls a spaceship to shoot down enemies and earn points. It was developed using OOP concepts and techniques in Python. Apart from the game itself, I also made a complete documentation of the game.

#### **Chatbot Design using RAG for SINES**

Designed and implemented a chatbot tailored to the specific needs of my Department (SINES) in University (NUST). Collected data using Google Forms, online scrapping, and self-collection. Used Retrieval Augmented Generation to enhance Chat Bot design. Utilized OpenAI's GPT 3.5-Turbo as Large Language Model.

#### **Impact of Path Loss Models on Age of Information in RIS-Assisted Wireless Networks**

Conducted an in-dept analysis of metrics AoI, PAoI, and probability of success, under various network conditions and various path loss models, with and without the involvement of Reconfigurable Intelligent Surfaces (RIS).

### *Ongoing Projects*

#### **Autonomous Vehicles via RIS-Assisted Space-Integrated 6G Networks**

Developing a framework for vehicular networks using Dynamic Spectrum Access to enable Integrated Sensing and Communication (ISAC). The system integrates RIS for LOS optimization, edge computing for efficient task offloading, and LEO satellites for seamless communication.

#### **Energy Efficiency in Large Language Models (LLMs)**

Conducting independent research focused on optimizing the energy consumption of large language models (LLMs). The project explores efficient model architectures, training strategies, and deployment practices to minimize energy use while maintaining performance.

## A W A R D S   A N D   H O N O R S :

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- Second position in Final Year Project in the faculty of ‘Computer Science and Engineering’, GIKI, 2021
- TOEFL iBT score: 90/120 (2021)
- Google Analytics Individual Qualification: 90% (2021)

## S K I L L S :

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**Computer Languages:** C++, Python, HTML, CSS, JavaScript, PHP, LaTeX

**Operating Systems:** Windows, Linux

**Microcontrollers:** 8051, PIC, Arduino

**Softwares:** Dev C++, Creo, MATLAB, Keil uVision5, Proteus Design Suite, Eclipse, Adobe Photoshop, mikroC PRO for PIC, Ubuntu, WireShark, Cisco Packet Tracer, Microsoft Visio, Visual Studio Code, Google Analytics, Google Tag Manager, Data Studio, PuTTY, WinSCP, Jupyter, RoboFlow

**Extra-Curricular Skills:** Pianist, Photographer, Sketcher, Badminton Player, Skateboarder

## R E F E R E N C E S :

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**Engr. Dr. Marios Lestas**

Associate Professor

Frederick University, Nicosia, Cyprus

Email: eng.lm@frederick.ac.cy

Ph.D. - University of Southern California, United States

**Engr. Dr. Hassaan Khaliq Qureshi**

Tenured Professor

National University of Sciences and Technology, Islamabad, Pakistan

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Ph.D. - University of London, United Kingdom

**Engr. Dr. Muhammad Waqas**

Senior Lecturer

University of Greenwich, London, United Kingdom

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Ph.D. - Tsinghua University, China