Hosein Kangavar Nazari

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Researchgate, Github, Linkedin, Personal Webpage, University Webpage

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Education

☐ PhD Student In Electrical and Computer Engineering

Technische Universität Dresden — TU Dresden, Gremany (2022 - until Now)

Topic: Deterministic communication over wired and wireless links via 5G and Time-Sensitive networking

Supervisor: Prof. Frank Fitzek

☐ MSc in Computer Science

Institute for Advanced Studies in Basic Sciences (IASBS), Iran *(*2018 - 2021)

GPA: 19.94/20, Rank (1/14)

Topic: Improving the wireless channel resilience through partial packet recovery of Network Coding-based communication

Supervisor: Dr. Peyman Pahlevani

☐ BSc in Information Technology Engineering

Institute for Advanced Studies in Basic Sciences, Iran *(*2014 -2018)

GPA: 18.76/20, Rank (1/44)

Topic: Evaluation of WebRTC protocol performance over noisy links on Video Traffic

Supervisor: Dr. Peyman Pahlevani

Research Interest

☐ Time-Sensitive networking

- Traffic Shaping and scheduling

☐ Wireless Communications

☐ Network Coding

☐ Age of information

Publications

☐ **Incremental Joint Scheduling and Routing for 5G-TSN Integration**, European Wireless (EW), Rome, Italy, 2023 (accepted for publication).

Authors: Hosein K. Nazari, M. Kurt, H. Liu, S. Senk, G. Nguyen, and F. Fitzek

☐ **Bridging the Gap: 5G-TSN Integration for Industrial Robotic Communication**, European Wireless (EW), Rome, Italy, 2023, (accepted for publication).

Authors: Hosein K. Nazari, J. Abicht, H. Liu, S. Senk, T. Scheinert, G. Nguyen, and F. Fitzek

☐ **Improving the Decoding Speed of Packet Recovery in Network Coding** IEEE Communications Letters

Authors: Hosein K. Nazari, K. Ghassabi, P. Pahlevani, D. Lucani

☐ **Accelerating Partial Packet Recovery in RLNC**, IEEE Communications Letters

Authors: V. gholamiyan, Hosein K. Nazari, , P. Pahlevani, F. Fitzek

☐ **Open-Source Testbeds for Integrating Time-Sensitive Networking with 5G and beyond**, CCNC 2023 Workshop: ROBOCOM 2023, Las Vegas, USA, 2023

Authors: S. Senk, Hosein K. Nazari, H. Liu, G. Nguyen, and F. Fitzek

☐ **TSN-FlexTest: Flexible TSN Measurement Testbed (Extended Version),** arXiv preprint

Authors: M. Ulbricht, S. Senk, Hosein K. Nazari, H. Liu, M. Reisslein, G. Nguyen, F. Fitzek

Teaching Experience

☐ **Graduate Courses**

Practical Implementation of Network Coding (2023), instructed by Prof. Frank Fitzek

Coding Theory (2019-2020), Advanced Computer Networks (2019-2020), Distributed Systems (2020) instructed by Dr. Peyman Pahlevani

☐ **Undergraduate Courses**

Network Lab. (2019), Computer Networks (2018-2019), Operating Systems (2018), Instructed by Dr. Peyman Pahlevani

Algorithm Design (2017), Data Structure (2017), Instructed by Dr. Mansoor Davoodi Monfared

Duties: Conducting weekly reviews, lab, or tutorial sessions, evaluating projects

Research Experience

☐ **Research Associate,** ComNets, TU Dresden (2023 - until now)

Topic: Developing a 5G-TSN testbed for deterministic communication over the air

Responsibilities: I am engaged in the development of 5G network functions, including application functions and network-side translation services. I am also working on algorithms that facilitate the scheduling and configuration of network devices within the dynamic 5G-TSN network environment.

☐ **Research Assistant and Software Developer,** Sarve Saba Company (2020 - 2022)

Topic: Developing IoT systems for online controlling and monitoring system of air conditioning systems.

Responsibilities: I actively participated in developing an IoT system with Node js framework to control actuators, capture and analyze the sensor data, and provide real-time reports (Identifying, evaluating, and addressing security threats).

☐ **Wireless Communication Laboratory Research Intern,** IASBS (2018 - 2021)

Topic: Developing an application for monitoring and controlling the Heating, Ventilation, and Air Conditioning (HVAC) system for reducing electric power usage.

Responsibilities: I developed a server to monitor and control the HVAC system. In addition, I designed a user-friendly web interface/dashboard for visually presenting data and generating reports.

Supervision

☐ **Diploma thesis** Tobias Scheinert: "Intelligent Optimization using AI for Emerging Time-Sensitive Applications"

☐ **Diploma thesis** – Hengkai Zhao: "A Study on 5G Quality of Service Mechanisms with OMNeT++"

☐ **Diploma thesis/MScjoooon** – Xianyu Zhou: "Enhancing Security Mechanisms for Low-Latency Communication in Network Coding"

☐ **Student thesis/BSc** – Abraham Payasian: "Exploring Efficient Time-aware Shaper Configurations for the Fully Centralized TSN Network Controller"

☐ **Student thesis/BSc** – Kunru Zou: "Time-Sensitive Networking Extensions for Future Industrial 5G Systems"

☐ **Student thesis/BSc** – Markus Schmidl: "Evaluation on the use of commodity WiFi hardware for testing out physical layer security key generation schemes"

☐ **Oberseminar** – Abraham Payasian: "Reliability Enhancements for 5G-Time-Sensitive Networking"

☐ **Scientific working** – Sophian Elias Romdhani: "A Study on 5G Device-to-Device Communication"

Volunteer Experience

☐ **Computer Science department representative at the research week firm**, Zanjan (2016 - 2018).

Responsibilities: Presenting the latest software/products developed in the Computer Science department of IASBS

☐ **University representative at the 5th exhibition of ELECOMP fair, presenting an IoT-based system for online classrooms,** Zanjan (2017).

Responsibilities: Presenting the latest software/products developed in the IoT Lab of IASBS

Skills

☐ **Language proficiency:** Persian (Native), English (Proficient), German (Beginner)

☐ **Familiar with**

Several programming languages, including C++, Python, and Javascript.

Linux (Ubuntu & Kali), Git, web development programming, databases

Network simulators and measurement tools (Including PyErasure, Kodo and FiFi Simulators, NS3 Simulator, Wireshark, etc.).