Nikita Tafintsev

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nikita-tafintsev

WORK EXPERIENCE

Jan. 2020 – present

Doctoral Researcher

Tampere University. Faculty of Information Technology and Communication Sciences

- Performance evaluation and optimization of IAB systems
- Network simulations and analytical modeling
- Development of intelligent algorithms for IAB-based wireless systems

Aug. 2017 – Dec. 2019

Graduate Research Assistant

Tampere University. Faculty of Information Technology and Communication Sciences

- Network analysis of mmWave-based wireless aerial networks
- Network simulations and antenna design for 5G/5G+ cellular systems
- Developing and implementing capacity and coverage optimization algorithms

EDUCATION

2017 – 2019

Master's Degree with Honors in Information Technology

Tampere University, Finland. Communication Systems and Networks

- 5G communications
- Theoretical and practical knowledge in wireless communication systems
- Radio communications, propagation and system-level RF issues
- Multicarrier and multiantenna digital communication techniques
- Operating principles and resource management algorithms in wireless networks
- **Minor:** Pattern recognition and machine learning
- **Master's Thesis:** Aerial Access and Backhaul in mmWave Systems

2013 – 2017

Bachelor's Degree with Honors in Telecommunications

Peter the Great St.Petersburg Polytechnic University, Russia. Radio Engineering and Telecommunication Systems

- Mathematical analysis
- Programming (C/C++, Python, MATLAB)
- Ultra-high frequency devices and antennas
- Electromagnetic fields and waves
- **Bachelor's Thesis:** Characterizing Wireless Connectivity with a Multicopter UAV

ACCOMPLISHMENTS

Publications

- **N. Tafintsev et al., "Handling Spontaneous Traffic Variations in 5G+ via Offloading onto mmWave-Capable UAV 'Bridges'',"** IEEE Transactions on Vehicular Technology, 2020, JUFO: level 3, SJR: Q1 (best quartile), Impact Factor: 5.34
- **N. Tafintsev et al., "Reinforcement Learning for Improved UAV-based Integrated Access and Backhaul Operation,"** IEEE International Conference on Communications (ICC), 2020, JUFO: level 1, Flagship venue
- **N. Tafintsev et al., "Aerial Access and Backhaul in mmWave B5G Systems: Performance Dynamics and Optimization,"** IEEE Communications Magazine, 2020, JUFO: level 2, SJR: Q1 (best quartile), Impact Factor: 10.36
- **N. Tafintsev et al., "Improved Network Coverage with Adaptive Navigation of mmWave-Based Drone-Cells,"** IEEE Globecom Workshops, 2018, JUFO: level 1, Flagship venue

Patents
- US patent application. **"Methods and apparatus to collect data from user equipment outside a network"**
- US patent application. **"Methods for on-demand wireless capacity offloading via a fleet of unmanned aerial vehicles"**

Selected projects
- **UAV-based wireless communications. Intel Research Labs USA.**
  Simulation and analytical modeling.
- **Positioning of Light Show Drones in the Sky. Demola project with Intel Finland.**
  Measuring and defining the exact positions of flying objects.
  `https://applications.demola.net/cases/366`
- **Smart navigation assistant. Huawei Finland AI Hackathon.**
  Machine learning application with the use of Huawei AI SDK.
  Prix: Innovativeness Scholarship
- **AI-driven platform for customer interactions. SAP Finland Junction Hackathon.**
  Machine learning speech recognition web application.
  `https://projects.hackjunction.com/projects/junction-2018/5bf868776a75040015931dc1`

SKILLS

Technical skills
- Python (TensorFlow, scikit-learn, NumPy, Matplotlib, etc.), MATLAB, C/C++
- Version control systems (Git)
- Event driven simulators
- Machine learning techniques
- Strong mathematical background
- System modeling

Soft skills
- Team work: I worked in research teams with collaborators from different cultural backgrounds both on-site and remotely
- Learning ability
- Problem solving

Languages
- English – Fully professional proficiency
- Russian – Native proficiency
- Finnish – Elementary proficiency
- Kazakh – Fully professional proficiency

AWARDS

Student Grants
- Travel grant to IEEE International Conference on Communications
  `https://icc2020.ieee-icc.org/program/student-grants`

PROFESSIONAL SERVICE

Journal and Magazine Reviewer
- IEEE Communications Magazine
- IEEE Transactions on Vehicular Technology
- IEEE Internet of Things Journal

Conference Reviewer
- IEEE International Conference on Communications
- IEEE Global Communications Conference

Publicity and Publication chair
- International conference on Internet of Things, Smart Spaces, and Next Generation Networks and Systems (2018, 2019)
  `https://link.springer.com/book/10.1007/978-3-030-01168-0`
  `https://link.springer.com/book/10.1007/978-3-030-30859-9`