

# HAO ZHOU

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[Google Scholar](#) || [LinkedIn](#) || [Personal Website](#)

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## PERSONAL PROFILE

**Over 50 peer-reviewed publications** on IEEE journals/flagship conferences with **1500+ citations**;

**Best Doctoral Thesis Award (1st position)** in 2023 Engineering PhD graduates, University of Ottawa);

**2 Best Paper Awards** from IEEE CSIM committee and IEEE ICC (16 selected from 2778 submissions);

**Mentored nearly 10 PhD and Master students**, growing team members' technical and professional skills;

**5+ Invited Talks/Tutorials/Technical Committee Members (TPC)** at IEEE Future Networks, IEEE ICC conference.

Leading **multiple industrial collaborations** with Ericsson Canada (MITACS Accelerate Program, **6 patented AI solutions**) and Samsung Research America (Samsung Global Research Outreach grant, **11 projects selected globally**);

**Research Interests:** Reinforcement learning (RL) theories (Multi-agent RL, Transfer RL, Hierarchical RL) and applications (Edge and on-device intelligence, 5G/6G network optimization, Smart home and energy trading);

**Large language models theories (Prompting and in-context learning, Retrieval Augmented Generation (RAG), Knowledge graph)** and applications (Edge-cloud LLM deployment, Network optimization and prediction, Telecom-domain knowledge understanding, Structured entity extraction.)

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## WORK EXPERIENCE & EDUCATION

<b>Senior Research Engineer</b> , Samsung Research America, Canada	Oct.2025 – Present
Job duties: Working on AI/ML, especially LLM for 6G networks.	
<b>Postdoctoral Researcher</b> , School of Computer Science, McGill University, Canada	Oct.2023 – Jun. 2025
Supervisor: Dr. Xue (Steve) Liu, William Dawson Chair Professor, IEEE Fellow, Fellow of Canadian Academy of Engineering (CAE).	
<b>Ph.D. in Electrical and Computer Engineering</b> , University of Ottawa, Canada	Sep.2019 – Aug. 2023
Supervisor: Dr. Melike Erol-Kantarci, Full professor, IEEE Fellow, Canada Research Chair on AI-Enabled Next-Generation Wireless Networks.	
<b>M.Eng in Electrical Engineering</b> , Tianjin University, China	Sep.2016 – Dec.2018
Supervisor: Prof. Shaoyun Ge. GPA: 4.0 / 4.0	
<b>B.Eng. in Electrical Engineering and Automation</b> , Huazhong University of Science and Technology, China	
GPA: 4.0 / 4.0	Sep.2012 – Jun.2016

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## AWARDS & SCHOLARSHIPS

<b>Best Doctoral Thesis Award in Faculty of Engineering</b> , University of Ottawa ( <i>1st position among all PhD graduates of the engineering faculty in 2023</i> )	May. 2024
<b>Best Journal Paper Award</b> , IEEE ComSoc CSIM Technical Committee	Nov. 2023
<b>Best Paper Award</b> , COMMUNICATION SOFTWARE & MULTIMEDIA Track, IEEE International Conference on Communications (ICC) ( <i>one of 16 selected papers from 2778 submissions</i> )	May. 2023
<b>Outstanding Self-financed Abroad Chinese Students Award</b> (6000 USD \$), China Scholarship Council	Jul. 2023
<b>International Doctoral Scholarship</b> , University of Ottawa	2019 – 2023
<b>International Doctoral Admission Scholarship</b> , University of Ottawa	2020 – 2023
<b>Canada NSERC CREATE TOP-SET</b> , Canada NSERC	2019 – 2023
<b>Second Prize Graduate Student Scholarship</b> , Tianjin University	Oct.2017 and Oct.2018

**Outstanding Graduate Award**, Huazhong University of Science and Technology

May.2016

**Outstanding Student Leader Award**, Huazhong University of Science and Technology

Oct.2014 and Sep.2015

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## PROJECT EXPERIENCE

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### **Large Language Model-driven Efficient and Flexible NextG Cellular Network Management**

with Samsung Research American, Standards and Mobility Innovation Laboratory

Apr.2025 – Mar.2026

**Group Leader (Mentored 4 PhD and 1 Master students) :**

- **Crafted the project proposal** and secured **\$150K Samsung Global Research Outreach grant** (Highly competitive funding with **only 11 projects selected globally** for the year 2024-2025).
- Led **end-to-end project design and execution** with a 5-member team (4 PhD and 1 Master student) to integrate LLMs (GPT-4, Llama 3) into 5G-Advanced network optimization.
- **Defined project milestones, allocated resources, and mitigated risks** (e.g., data privacy compliance), ensuring on-time delivery of all objectives.
- **Developed a TeleLLM model** by integrating LLMs (e.g., GPT-4, Llama 3) with **retrieval-augmented generation (RAG)** and knowledge graph, **improving 40% accuracy** compared with existing techniques.
- Designed a novel **LLM deployment technique at network edge and cloud, reducing 10% lower overall latency** for generation services from mobile user.
- Developed **2 novel LLM prompting techniques for network optimization and prediction tasks**, achieving comparable performance as conventional ML models **in a training-free manner**.

### **AI-enabled Performance Enhancement for the Reconfigurable Multi-Player RAN**

MITACS Accelerate Program with Ericsson Canada

May.2020 – Aug.2023

**Group Leader:**

- **Mentored 3 PhD and 1 Master students** in this project as the group leader of the university side, **publishing 10+ papers** at flagship conferences (IEEE ICC/ Globecom). **Growing team members' technical and professional skills** through **weekly skill-building meetings, personalized development plans, and collaborative problem-solving**.
- **Bridged industry-academia collaboration** and **filed 6 US patents with Ericsson Canada** in AI-driven network optimization (energy efficiency, traffic steering, network slicing and security). Contributed pioneered novel AI architectures to Ericsson's 5G Advanced/6G commercialization roadmap.
- Developed a series of AI-enabled solutions (**Hierarchical reinforcement learning, Federated learning, Split learning**) to intelligently improve network performance, e.g., **joint decision-making with multiple timescales** to reduce 20% power consumption, **secure federated learning for network security** to achieve 15% higher energy efficiency.

### **Hybrid LLM-DDQN based Joint Optimization of Vehicle-to-Infrastructure (V2I) Communication and Autonomous Driving** with York University, Canada

Sep.2024–Feb.2025

**Group Leader (Defined the project schemes and milestones):**

- Developed a novel technique to **integrate LLM and deep reinforcement learning** to explore **the application of LLMs in the decision-making of autonomous driving**.
- The experiment is implemented in *HighwayEnv* environment using GPT and Llama series models, leading to **30% lower collision rate** for autonomous driving.

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## PROFESSIONAL SERVICES & INVITED TALKS

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Invited talks on “**Understanding 6G through Language Models: From Structured Knowledge Extraction to**

**Knowledge-Grounded Reasoning**”, Institute for Communication Systems (ICS) at University of Surrey, UK Dec. 2025

Invited talks on “**Large Language Models for Next Generation Wireless Networks**”, Department of Engineering, King’s College London, UK Feb. 2024

Tutorials on “**Generative Foundation Models (GFMs) For NextG Communication Networks: Fundamentals, Key Techniques, and Future Directions**” IEEE International Conference on Communications (ICC), Jun. 2025

Invited talks on “**Optimization Techniques for Reconfigurable Intelligent Surfaces**”, IEEE Future Networks AI/ML Working Group

Invited talks on ”**Large Language Models (LLMs) for NextG Wireless Networks**”, IEEE Future Networks AI/ML Working Group Sep. 2024

**TPC Member**, 2026 IEEE International Conference on Communications (ICC) Oct. 2025

**Program Committee (PC) member**, AI4NextG Workshop, NeurIPS 2025. Sep. 2025

**TPC Member**, 2025 IEEE 102nd Vehicular Technology Conference (VTC) Fall Oct. 2025

**TPC Member**, 2025 IEEE International Conference on Communications (ICC) Oct. 2024

**TPC Member**, 2024 IEEE International Conference on Communications (ICC) Oct. 2023

**Session Chair**, 2022 IEEE Consumer Communications and Networking Conference (CCNC) Jan.2022

**Session Chair**, 2021 IEEE International Symposium on PIMRC. Sep.2021

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## SELECTED PUBLICATIONS

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### Topic 1: LLM/GenAI for Edge Intelligence, Telecom Knowledge and Information Understanding

[L12] Y. Lin\*, **H. Zhou\***, C. Hu, X. Liu, H. Chen, Y. Xin, J. C. Zhang, “**Hierarchical Debate-Based Large Language Model (LLM)** for Complex Task Planning of 6G Network Management,” in *International Conference on Machine Learning (ICML) 2025 Workshop on Machine Learning for Wireless Communication and Networks*, Jun. 2025.

[L11] **H. Zhou\***, C. Hu\*, Dun Yuan, Ye Yuan, Di Wu, Xue Liu, Jianzhong Charlie Zhang, “Prompting Wireless Networks: **Reinforced In-Context Learning** for Power Control,” in *International Conference on Machine Learning (ICML) 2025 Workshop on Machine Learning for Wireless Communication and Networks*, Jun. 2025.

[L10] Z. Yan\*, **H. Zhou\***, J. Pei, H. Tabassum, “**Hierarchical and Collaborative LLM-Based Control** for Multi-UAV Motion and Communication in Integrated Terrestrial and Non-Terrestrial Networks,” in *International Conference on Machine Learning (ICML) 2025 Workshop on Machine Learning for Wireless Communication and Networks*, Jun. 2025.

[L09] **H. Zhou**, C. Hu, D. Yuan, Y. Yuan, D. Wu, X. Chen, H. Tabassum, X. Liu, “Large Language Models (LLMs) for Wireless Networks: An Overview from the **Prompt Engineering Perspective**,” *IEEE Wireless Communications*, pp.1-10, Jan. 2025. **IEEE ComSoc Best Readings**.

[L08] **H. Zhou**, C. Hu, D. Yuan, Y. Yuan, D. Wu, X. Liu, Z. Han, and C. Zhang, “Generative AI as a Service in 6G Edge-Cloud: **Generation Task Offloading by In-context Learning**,” *IEEE Wireless Communications Letters*, vol.14, no.3, pp.1-5, Mar. 2025. **IEEE ComSoc Best Readings**.

[L07] **H. Zhou**, C. Hu, Y. Yuan, Y. Cui, Y. Jin, C. Chen, H. Wu, D. Yuan, L. Jiang, D. Wu, X. Liu, C. Zhang, X. Wang, and J. Liu, “**Large Language Model (LLM) for Telecommunications**: A Comprehensive Survey on Principles, Key Techniques, and Opportunities,” *IEEE Communications Survey & Tutorials*, pp.1-52, Sep. 2024. **ESI Top 1% highly cited papers; IEEE ComSoc Best Readings**

[L06] Z. Yan, **H. Zhou**, H. Tabassum, and X. Liu, “**Hybrid LLM-DDQN based Joint Optimization** of V2I Communication and Autonomous Driving,” *IEEE Wireless Communications Letters*, vol. 14, no.1, pp.1-5, Feb 2025.

- [L05] D. Yuan, **H. Zhou**, D. Wu, X. Liu, H. Chen, Y. Xin, and C. Zhang, “Enhancing Large Language Models (LLMs) for Telecommunications using **Knowledge Graphs and Retrieval-Augmented Generation**,” *2025 IEEE ICC Workshops*, pp.1-6, Mar. 2025.
- [L04] C. Hu, **H. Zhou**, D. Wu, X. Chen, J. Yan, and X. Liu, “**Self-Refined Generative Foundation Models** for Wireless Traffic Prediction,” *IEEE Trans. on Vehicular Technology*, pp.1-6, Nov. 2025. *IEEE ComSoc Best Readings*.
- [L03] Y. Emami, **H. Zhou**, S. Nabavirazani, and L. Almeida, “**LLM-Enabled In-Context Learning** for Data Collection Scheduling in UAV-assisted Sensor Networks,” *IEEE Internet of Things Journal* (Accepted), pp.1-14, Sep. 2025.
- [L02] Kai. Hu, Y. Jin, **H. Zhou**, L. Du, J. Liu, and X. Liu, “**Generative AI for Immersive Video**: Recent Advances and Future Opportunities,” in Proc. 2025 International Joint Conference on Artificial Intelligence (IJCAI), pp.1-9.
- [L01] Y. Yuan, H. Wu, **H. Zhou**, X. Liu, H. Chen, Y. Xin, and C. Zhang, “Understanding 6G through Language Models: A Case Study on LLM-aided Structured Entity Extraction in Telecom Domain”, Accepted to 2025 IEEE GLOBECOM Conference.

## **Topic 2: Hierarchical Learning for Network Optimization & Energy Efficiency & Open-RAN**

- [H07] **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, S. Furr, and M. Erol-Kantarci, “**Cooperative Hierarchical Deep Reinforcement Learning** based Joint Sleep, Power, and RIS Control for Energy-Efficient RAN,” *IEEE Trans. on Cognitive Communications and Networking*, vol. 11, no.1, pp.489-504, Feb. 2025.
- [H06] **H. Zhou**, M. Erol-Kantarci, Y. Liu, and H. V. Poor, “Heuristic Algorithms for RIS-assisted Wireless Networks: Exploring **Heuristic-aided Machine Learning**,” *IEEE Wireless Communications*, vol.3, no.4, pp.1-9, Aug. 2024.
- [H05] **H. Zhou**, L. Kong, M. Elsayed, M. Bavand, R. Gaigalas, et. al, “**Hierarchical Reinforcement Learning** for RIS-Assisted Energy-Efficient RAN,” in *Proc. 2022 IEEE GLOBECOM*, Dec. 2022, pp.1-6.
- [H04] M. A. Habib, **H. Zhou**, PE. Iturria-Rivera, M. Elsayed, M. Bavand, R. Gaigalas, Y. Ozcan, and M. Erol-Kantarci, “Machine Learning-enabled Traffic Steering in O-RAN: A Case Study on **Hierarchical Learning Approach**,” *IEEE Communications Magazine*, vol.63, no.1, pp. 100-107, Jan. 2025.
- [H03] M. A. Habib, **H. Zhou**, PE. Iturria-Rivera, M. Elsayed, M. Bavand, R. Gaigalas, Y. Ozcan, and M. Erol-Kantarci, “**Hierarchical Reinforcement Learning** Based Traffic Steering in Multi-RAT 5G Deployments,” in *Proc. 2023 IEEE ICC*, May. 2022, pp.1-6. *2023 IEEE ICC Best Paper Award*.
- [H02] M. A. Habib, **H. Zhou**, PE. Iturria-Rivera, M. Elsayed, M. Bavand, R. Gaigalas, Y. Ozcan, and M. Erol-Kantarci, “**Intent-driven Intelligent Control** and Orchestration in O-RAN via Hierarchical Reinforcement Learning,” in *Proc. 2023 IEEE MASS*, Sep. 2023. pp.1-7.
- [H01] H. Zhang, W. Wang, **H. Zhou**, Z. Lu, and Ming. Li, “A Hierarchical DRL Approach for Resource Optimization in Multi-RIS Multi-Operator Networks,” *IEEE Trans. on Wireless Communications*, pp.1-13, Feb. 2025.

## **Topic 3: Transfer Learning for Network Optimization & Machine Learning Security**

- [T06] **H. Zhou**, M. Erol-Kantarci, and H. V. Poor, “**Knowledge Transfer and Reuse**: A Case Study of AI-enabled Resource Management in RAN Slicing,” *IEEE Wireless Communications*, vol.30, no.5, pp.1-10, Oct. 2023.
- [T05] **H. Zhou**, M. Erol-Kantarci, and H. V. Poor, “Learning from Peers: **Deep Transfer Reinforcement Learning** for Joint Radio and Cache Resource Allocation in 5G Network Slicing,” *IEEE Trans. on Cognitive Communications and Networking*, vol.8, no.4, pp.1925-1941, Dec.2022. *IEEE ComSoc CSIM TC Best Journal Paper Award*
- [T04] **H. Zhou**, and M. Erol-Kantarci, “**Knowledge Transfer** based Radio and Computation Resource Allocation for 5G RAN Slicing,” in *Proc. 2022 IEEE CCNC*, Jan. 2022, pp.1-6.
- [T03] S. Salhi, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, and M. Erol-Kantarci, “Smart Jamming Attack and

**Mitigation on Deep Transfer Reinforcement Learning Enabled Resource Allocation for Network Slicing,”** *IEEE Trans. on Machine Learning in Communications and Networking*, vol. 2, pp. 1492-1508, Sep. 2024.

[T02] S. Salhi, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, and M. Erol-Kantarci, “**Policy Poisoning Attacks on Transfer Learning** enabled Resource Allocation for Network Slicing,” in Proc. 2023 IEEE GLOBECOM, Dec. 2022, pp.1-6.

[T01] S. Salhi, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, and M. Erol-Kantarci, “Jamming Attacks and Mitigation in Transfer Learning Enabled 5G RAN Slicing,” in Proc. 2024 IEEE ICC, Jun. 2024, pp. 4269-4274.

#### **Topic 4: Multi-agent Reinforcement Learning and GenAI for Smart Energy Trading**

[E10] **H. Zhou**, A. Aral, I. Brandic, and M. Erol-Kantarci, “Multi-agent Bayesian Deep Reinforcement Learning for Microgrid Energy Management under Communication Failures,” *IEEE Internet of Things Journal*, vol.9, no.14, pp.11685-11698, Jul. 2022.

[E09] **H. Zhou**, and M. Erol-Kantarci, “Decentralized Microgrid Energy Management: A Multi-agent Correlated Q-learning Approach,” in Proc. 2020 IEEE SmartGridComm, Nov. 2020, pp.1-7.

[E08] **H. Zhou**, and M. Erol-Kantarci, “Correlated Deep Q-learning based Microgrid Energy Management,” Proc. IEEE 25th Int. Workshop CAMAD, Sep. 2020, pp.1-6.

[E07] M. Razghandi, **H. Zhou**, M. Erol-Kantarci, and D. Turgut, “Variational Autoencoder Generative Adversarial Network for Synthetic Data Generation in Smart Home,” in Proc. 2022 IEEE ICC, Jan. 2022, pp.1-6.

[E06] M. Razghandi, **H. Zhou**, M. Erol-Kantarci, and D. Turgut, “Smart Home Energy Management: VAE-GAN synthetic dataset generator and Q-learning,” *IEEE Trans. on Smart Grid*, vo.15, no.2, pp.1562-1573, May 2024.

[E05] M. Razghandi, **H. Zhou**, M. Erol-Kantarci, and D. Turgut, “Smart Home Energy Management: Sequence-to-Sequence Load Forecasting and Q-Learning,” in Proc. 2021 IEEE GLOBECOM, Dec. 2021, pp.1-6.

[E04] M. Razghandi, **H. Zhou**, M. Erol-Kantarci, and D. Turgut, “Short-Term Load Forecasting for Smart Home Appliances With Sequence to Sequence Learning,” in Proc. 2021 IEEE ICC, Jun. 2021, pp.1-6.

[E03] J. Zhang, **H. Zhou**, C. Liu, et al. “Highway Charging Station Plan Based on Dynamic Traffic Flow Simulation,” in Proc. 2018 Int. Conf. on Energy, Environment, Bio. Sciences, Mar. 2018, pp.1-6.

[E02] J. Zhang, **H. Zhou**, et al., “Multi-objective Planning of Charging Stations Considering Vehicle Arrival Hot Map,” in Proc. 2017 IEEE EI2, Nov. 2017, pp.1-6.

[E01] S. Ge, J. Li, H. Liu, X. Liu, Y. Wang, and **H. Zhou**, “Domestic Energy Consumption Modeling per Physical Characteristics and Behavioral Factors,” in Proc. 2018 ICAE, Aug. 2018, pp.1-6.

#### **Topic 5: Federated Learning for Network Security, On-device Intelligence**

[F05] H. Zhang, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, Y. Ozcan, and M. Erol-Kantarci, “**On-Device Intelligence** for 5G RAN: Knowledge Transfer and Federated Learning enabled UE-Centric Traffic Steering,” *IEEE Trans. on Cognitive Communications and Networking*, vol.10, no.2, pp. 689-705, Apr. 2023.

[F04] H. Zhang, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, Y. Ozcan, and M. Erol-Kantarci, “**Distributed Attacks over Federated Reinforcement Learning**-enabled Cell Sleep Control,” in Proc. 2023 IEEE GLOBECOM Workshop, Dec. 2022, pp.1-6.

[F03] H. Zhang, **H. Zhou**, and M. Erol-Kantarci, “**Federated Deep Reinforcement Learning** for Resource Allocation in O-RAN Slicing,” in Proc. 2022 IEEE GLOBECOM, Dec. 2022, pp.1-6.

[F02] H. Zhang, **H. Zhou**, M. Erol-Kantarci, “**Team Learning-Based** Resource Allocation for Open Radio Access Network (O-RAN),” in Proc. 2022 IEEE ICC, Jan. 2022, pp.1-6.

[F01] PE. Iturria-Rivera, H. Zhang, **H. Zhou**, S. Mollahasani, and M. Erol-Kantarci, “**Multi-Agent Team Learning**

in Virtualized Open Radio Access Networks (O-RAN)," *Sensors*, vol.22, no.14, pp.1-13, Jul. 2022.

## **Topic 6: Reinforcement Learning for Resource Allocation, Sensing, and Localization**

- [R08] **H. Zhou**, M. Erol-Kantarci, Y. Liu, and H. V. Poor, "A Survey on **Model-based, Heuristic, and Machine Learning Optimization Approaches** in RIS-aided Wireless Networks," *IEEE Communications Survey & Tutorials*, vol.26, no.2, pp.781-823, 2nd quarter, 2024.
- [R07] **H. Zhou**, M. Elsayed, and M. Erol-Kantarci, "RAN Resource Slicing in 5G Using **Multi-Agent Correlated Q-Learning**," in *Proc. 2021 IEEE PIMRC*, Sep. 2021, pp.1-6.
- [R06] M. A. Habib, **H. Zhou**, PE. Iturria-Rivera, M. Elsayed, M. Bavand, R. Gaigalas, S. Furr, and M. Erol-Kantarci, "Traffic Steering for 5G Multi-RAT Deployments using **Deep Reinforcement Learning**," in *Proc. 2022 IEEE CCNC*, Jan. 2023, pp. 1-6.
- [R05] Z. Yan, **Hao Zhou**, J. Pei, A. Kaushik, H. Tabassum, P. Wang, "CVaR-Based Variational Quantum Optimization for User Association in Handoff-Aware Vehicular Networks," Accepted by *2025 IEEE ICC*, Jan. 2025, pp. 1-6.
- [R04] Y. Yao, **H. Zhou**, M. Erol-Kantarci, "Joint Sensing and Communications using **Deep Reinforcement Learning-based Beam Management** in 6G Networks," in *Proc. 2022 IEEE GLOBECOM*, Dec. 2022, pp.1-6.
- [R03] Y. Yao, **H. Zhou**, et. al., "Deep Reinforcement Learning-Based Radio Resource Allocation and Beam Management **Under Location Uncertainty** in 5G mmWave Networks," in *Proc. 2022 IEEE ISCC*, Jul. 2022, pp.1-6.
- [R02] Y. Dantas, PE. Iturria-Rivera, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, and M. Erol-Kantarci, "**Split Learning** for Sensing-Aided Single and Multi-Level Beam Selection in Multi-Vendor RAN," in *Proc. 2023 IEEE GLOBECOM*, Dec. 2022, pp.1-6.
- [R01] Y. Dantas, PE. Iturria-Rivera, **H. Zhou**, M. Elsayed, M. Bavand, R. Gaigalas, and M. Erol-Kantarci, "Beam Selection for Energy-Efficient mmWave Network Using **Advantage Actor Critic Learning**," in *Proc. 2023 IEEE ICC*, May. 2022, pp.1-6.

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## **PATENTS**

- [P01] **H. Zhou**, Melike Erol-Kantarci, M. Elsayed, M. Bavand, et. al., "System and Method for **Intelligent Joint Sleep, Power and RIS Control**", US provisional patent filed on 11 August 2022, US patent filed on 11 August 2023.
- [P02] **H. Zhou**, L. Kong, Melike Erol-Kantarci, et. al, "System and Method for RIS-Assisted Energy-Efficient RAN Using **Hierarchical Reinforcement Learning**", US provisional patent filed on 07 May 2022, US patent filed on 06 May 2023
- [P03] H. Zhang, **H. Zhou**, M. Erol-Kantarci, et. al, "Attacks and Defense in **Federated Reinforcement Learning**-based Wireless Networks, US provisional patent filed on 5 May 2023, US patent filed on 05 May 2024.
- [P04] H. Zhang, **H. Zhou**, M. Erol-Kantarci, M. Elsayed, et. al, "User Equipment (UE)-centric Traffic Steering for Wireless Communications", US provisional patent filed on 18 April 2023, US patent filed on 17 April 2024.
- [P05] A. Habib, **H. Zhou**, P. E. Iturria Rivera, M. Erol-Kantarci, et. al, "System and Method for **Intelligent Traffic Steering in RAT**", US provisional patent filed on 10 November 2022, PCT patent filed on 11 November 2023.
- [P06] Y. Dandas, P. E. Iturria Rivera, **H. Zhou**, M. Erol-Kantarci, et. al, "**Split Learning** for Sensing-Aided Beam Selection", US provisional patent filed on 29 April 2023, US patent filed on 29 April 2024.

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## **TRAINING AND TEACHING EXPERIENCE**

<b>Virtual Could RAN Intern</b> , Ericsson, Canada	Jan.2023 – Apr.2023
<b>Research Assistant</b> , NETCORE Lab, University of Ottawa, Canada	Sep.2019-Aug.2023
<b>Teaching Assistant</b> , School of Electrical and Computer engineering, University of Ottawa:	

ELG3155: Introduction to Control Systems

ELG4126: Sustainable Electrical Power Systems

ELG4157: Modern Control Engineering

ELG3316: Electric Machines and Power Systems

ELG4152: Modern Control Systems

ELG4139: Electronics

Sep.2020-Dec.2022