Dr. Sahraoui Dhelim, Ph.D.

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Education

2015 – 2020	🔖	**Ph.D. Computer Science**. University of Science and Technology Beijing, China Thesis title: *User Personality Traits in Recommender Systems.* Award: Outstanding Graduate Award
2012 – 2014	🔖	**M.Sc. Computer Science** . Laghouat University, Algeria Thesis title: *Location Services in Vehicular Ad-hoc networks*. Award: Graduating with honours 1st in class
2009 – 2012	🔖	**B.S. Computer Science** . Djelfa University, Algeria Award: Graduating with honours 1st in class

Academic Experience

2024 – Present	🔖	**Assistant Professor** Dublin City University, Ireland.
2023 – 2024	🔖	**Senior Postdoctoral Researcher** University College Dublin, Ireland. Project: Insight Data Analytics Centre
2021 – 2022	🔖	**Postdoctoral Researcher** University College Dublin, Ireland. Project: CONSUS (Crop Optimisation through Sensing, Understanding and Visualisation)
2020 – 2021	🔖	**Visiting Researcher** Ulster University, United Kingdom.

Research Publications

Journal Articles

1. **S. Dhelim**, N. Aung, M. T. Kechadi, H. Ning, L. Chen, and A. Lakas, "Trust2Vec: Large-Scale IoT Trust Management System Based on Signed Network Embeddings," **IEEE Internet of Things Journal**, vol. 10, no. 1, pp. 553–562, Jan. 2023, ISSN: 2327-4662. 🔗 DOI: 10.1109/JIOT.2022.3201772.

2. **S. Dhelim**, L. Chen, S. K. Das, H. Ning, C. Nugent, G. Leavey, D. Pesch, E. Bantry-White, and D. Burns, "Detecting Mental Distresses Using Social Behavior Analysis in the Context of COVID-19: A Survey," **ACM Computing Surveys**, vol. 55, no. 14s, pp. 1–30, Dec. 2023, ISSN: 0360-0300. 🔗 DOI: 10.1145/3589784.

3   **S. Dhelim**, H. Ning, N. Aung, R. Huang, and J. Ma, "Personality-Aware Product Recommendation System Based on User Interests Mining and Metapath Discovery," **IEEE Transactions on Computational Social Systems**, vol. 8, no. 1, pp. 86–98, Feb. 2021, ISSN: 2329-924X. 🔗 DOI: 10.1109/TCSS.2020.3037040.

4   **S. Dhelim**, H. Ning, and N. Aung, "ComPath: User Interest Mining in Heterogeneous Signed Social Networks for Internet of People," **IEEE Internet of Things Journal**, vol. 8, no. 8, pp. 7024–7035, Apr. 2021, ISSN: 2327-4662. 🔗 DOI: 10.1109/JIOT.2020.3037109.

5   **S. Dhelim**, N. Aung, and H. Ning, "Mining user interest based on personality-aware hybrid filtering in social networks," **Knowledge-Based Systems**, vol. 206, p. 106 227, Oct. 2020, ISSN: 09507051. 🔗 DOI: 10.1016/j.knosys.2020.106227.

6   **S. Dhelim**, N. Aung, M. A. Bouras, H. Ning, and E. Cambria, "A survey on personality-aware recommendation systems," **Artificial Intelligence Review**, vol. 55, no. 3, pp. 2409–2454, Mar. 2022, ISSN: 0269-2821. 🔗 DOI: 10.1007/s10462-021-10063-7.

7   **S. Dhelim**, H. Ning, F. Farha, L. Chen, L. Atzori, and M. Daneshmand, "IoT-Enabled Social Relationships Meet Artificial Social Intelligence," **IEEE Internet of Things Journal**, vol. 8, no. 24, pp. 17 817–17 828, Dec. 2021, ISSN: 2327-4662. 🔗 DOI: 10.1109/JIOT.2021.3081556.

8   **S. Dhelim**, L. Chen, H. Ning, and C. Nugent, "Artificial intelligence for suicide assessment using Audiovisual Cues: a review," **Artificial Intelligence Review**, vol. 56, no. 6, pp. 5591–5618, Jun. 2023, ISSN: 0269-2821. 🔗 DOI: 10.1007/s10462-022-10290-6.

9   **S. Dhelim**, L. Chen, N. Aung, W. Zhang, and H. Ning, "A hybrid personality-aware recommendation system based on personality traits and types models," **Journal of Ambient Intelligence and Humanized Computing**, vol. 14, no. 9, pp. 12 775–12 788, Sep. 2023, ISSN: 1868-5137. 🔗 DOI: 10.1007/s12652-022-04200-5.

10   N. Aung, **S. Dhelim**, L. Chen, A. Lakas, W. Zhang, H. Ning, S. Chaib, and M. T. Kechadi, "VeSoNet: Traffic-Aware Content Caching for Vehicular Social Networks Using Deep Reinforcement Learning," **IEEE Transactions on Intelligent Transportation Systems**, vol. 24, no. 8, pp. 8638–8649, Aug. 2023, ISSN: 1524-9050. 🔗 DOI: 10.1109/TITS.2023.3250320.

11   N. Aung, **S. Dhelim**, L. Chen, H. Ning, L. Atzori, and T. Kechadi, "Edge-Enabled Metaverse: The Convergence of Metaverse and Mobile Edge Computing," **Tsinghua Science and Technology**, vol. 29, no. 3, pp. 795–805, Jun. 2024, ISSN: 1007-0214. 🔗 DOI: 10.26599/TST.2023.9010052.

12   H. Ning, **S. Dhelim**, and N. Aung, "PersoNet: Friend Recommendation System Based on Big-Five Personality Traits and Hybrid Filtering," **IEEE Transactions on Computational Social Systems**, vol. 6, no. 3, pp. 394–402, Jun. 2019, ISSN: 2329-924X. 🔗 DOI: 10.1109/TCSS.2019.2903857.

13   A. Khelloufi, H. Ning, A. Naouri, A. B. Sada, A. Qammar, A. Khalil, L. Mao, and **S. Dhelim**, "A Multimodal Latent-Features-Based Service Recommendation System for the Social Internet of Things," **IEEE Transactions on Computational Social Systems**, pp. 1–16, 2024, ISSN: 2329-924X. 🔗 DOI: 10.1109/TCSS.2024.3360518.

14   A. Naouri, N. A. Nouri, A. Khelloufi, A. B. Sada, S. Naouri, H. Ning, and **S. Dhelim**, "BusCache: V2V-Based Infrastructure-Free Content Dissemination System for the Internet of Vehicles," **IEEE Access**, vol. 12, pp. 37 663–37 678, 2024, ISSN: 2169-3536. 🔗 DOI: 10.1109/ACCESS.2024.3374881.

15   J. O. Odeh, X. Yang, C. I. Nwakanma, and **S. Dhelim**, "Asynchronous Privacy-Preservation Federated Learning Method for Mobile Edge Network in Industrial Internet of Things Ecosystem," **Electronics**, vol. 13, no. 9, p. 1610, Apr. 2024, ISSN: 2079-9292. 🔗 DOI: 10.3390/electronics13091610.

16   A. Khelloufi, H. Ning, **S. Dhelim**, T. Qiu, J. Ma, R. Huang, and L. Atzori, "A Social Relationships Based Service Recommendation System For SIoT Devices," **IEEE Internet of Things Journal**, vol. 8, no. 3, pp. 1859–1870, 2020, ISSN: 2327-4662. 🔗 DOI: 10.1109/JIOT.2020.3016659.

17 N. Aung, W. Zhang, K. Sultan, **S. Dhelim**, and Y. Ai, "Dynamic traffic congestion pricing and electric vehicle charging management system for the internet of vehicles in smart cities," **Digital Communications and Networks**, vol. 7, no. 4, pp. 492–504, Nov. 2021, ISSN: 23528648. 🔗 DOI: `10.1016/j.dcan.2021.01.002`.

18 P. Hu, **S. Dhelim**, H. Ning, and T. Qiu, "Survey on fog computing: architecture, key technologies, applications and open issues," **Journal of Network and Computer Applications**, vol. 98, pp. 27–42, Nov. 2017, ISSN: 10848045. 🔗 DOI: `10.1016/j.jnca.2017.09.002`.

19 T. Zhu, **S. Dhelim**, Z. Zhou, S. Yang, and H. Ning, "An architecture for aggregating information from distributed data nodes for industrial internet of things," **Computers & Electrical Engineering**, vol. 58, pp. 337–349, Feb. 2017, ISSN: 00457906. 🔗 DOI: `10.1016/j.compeleceng.2016.08.018`.

20 A. Naouri, H. Wu, N. A. Nouri, **S. Dhelim**, and H. Ning, "A Novel Framework for Mobile-Edge Computing by Optimizing Task Offloading," **IEEE Internet of Things Journal**, vol. 8, no. 16, pp. 13 065–13 076, Aug. 2021, ISSN: 2327-4662. 🔗 DOI: `10.1109/JIOT.2021.3064225`.

21 **S. Dhelim**, N. Huansheng, S. Cui, M. Jianhua, R. Huang, and K. I.-K. Wang, "Cyberentity and its consistency in the cyber-physical-social-thinking hyperspace," **Computers & Electrical Engineering**, vol. 81, p. 106 506, Jan. 2020, ISSN: 00457906. 🔗 DOI: `10.1016/j.compeleceng.2019.106506`.

22 D. Wei, F. Shi, and **S. Dhelim**, "A Self-Supervised Learning Model for Unknown Internet Traffic Identification Based on Surge Period," **Future Internet**, vol. 14, no. 10, p. 289, Oct. 2022, ISSN: 1999-5903. 🔗 DOI: `10.3390/fi14100289`.

23 A. Ben Sada, A. Naouri, A. Khelloufi, **S. Dhelim**, and H. Ning, "A Context-Aware Edge Computing Framework for Smart Internet of Things," **Future Internet**, vol. 15, no. 5, p. 154, Apr. 2023, ISSN: 1999-5903. 🔗 DOI: `10.3390/fi15050154`.

24 W. Wang, H. Ning, F. Shi, **S. Dhelim**, W. Zhang, and L. Chen, "A Survey of Hybrid Human-Artificial Intelligence for Social Computing," **IEEE Transactions on Human-Machine Systems**, 2021.

25 S. Chaib, D. E. K. Mansouri, I. Omara, A. Hagag, **S. Dhelim**, and D. A. Bensaber, "On the Co-Selection of Vision Transformer Features and Images for Very High-Resolution Image Scene Classification," **Remote Sensing**, vol. 14, no. 22, p. 5817, Nov. 2022, ISSN: 2072-4292. 🔗 DOI: `10.3390/rs14225817`.

26 W. Zhang, Y. Wu, B. Yang, S. Hu, L. Wu, and **S. Dhelim**, "Overview of Multi-Modal Brain Tumor MR Image Segmentation," **Healthcare**, vol. 9, no. 8, p. 1051, Aug. 2021, ISSN: 2227-9032. 🔗 DOI: `10.3390/healthcare9081051`.

27 X. Cai, H. Ning, **S. Dhelim**, R. Zhou, T. Zhang, Y. Xu, and Y. Wan, "Robot and its living space: A roadmap for robot development based on the view of living space," **Digital Communications and Networks**, vol. 7, no. 4, pp. 505–517, Nov. 2021, ISSN: 23528648. 🔗 DOI: `10.1016/j.dcan.2020.12.001`.

28 H. Wang, H. Ning, Y. Lin, W. Wang, **S. Dhelim**, F. Farha, J. Ding, and M. Daneshmand, "A Survey on the Metaverse: The State-of-the-Art, Technologies, Applications, and Challenges," **IEEE Internet of Things Journal**, vol. 10, no. 16, pp. 14 671–14 688, Aug. 2023, ISSN: 2327-4662. 🔗 DOI: `10.1109/JIOT.2023.3278329`.

29 H. Ning, **S. Dhelim**, M. A. Bouras, A. Khelloufi, and A. Ullah, "Cyber-Syndrome and its Formation, Classification, Recovery and Prevention," **IEEE Access**, vol. 6, pp. 35 501–35 511, 2018, ISSN: 2169-3536. 🔗 DOI: `10.1109/ACCESS.2018.2848286`.

30 N. Aung, W. Zhang, **S. Dhelim**, and Y. Ai, "Accident Prediction System Based on Hidden Markov Model for Vehicular Ad-Hoc Network in Urban Environments," **Information**, vol. 9, no. 12, p. 311, Dec. 2018, ISSN: 2078-2489. 🔗 DOI: `10.3390/info9120311`.

31 W. Zhang, N. Aung, **S. Dhelim**, and Y. Ai, "DIFTOS: A Distributed Infrastructure-Free Traffic Optimization System Based on Vehicular Ad Hoc Networks for Urban Environments," **Sensors**, vol. 18, no. 8, p. 2567, Aug. 2018, ISSN: 1424-8220. 🔗 DOI: `10.3390/s18082567`.

32 N. Aung, W. Zhang, **S. Dhelim**, and Y. Ai, "T-Coin: Dynamic Traffic Congestion Pricing System for the Internet of Vehicles in Smart Cities," **Information**, vol. 11, no. 3, p. 149, Mar. 2020, ISSN: 2078-2489. 🔗 DOI: `10.3390/info11030149`.

33 M. A. Bouras, Q. Lu, **S. Dhelim**, and H. Ning, "A Lightweight Blockchain-Based IoT Identity Management Approach," **Future Internet**, vol. 13, no. 2, p. 24, Jan. 2021, ISSN: 1999-5903. 🔗 DOI: `10.3390/fi13020024`.

34 S. Alathur, N. Chetty, R. R. Pai, V. Kumar, and **S. Dhelim**, "Hate and False Metaphors: Implications to Emerging E-Participation Environment," **Future Internet**, vol. 14, no. 11, p. 314, Oct. 2022, ISSN: 1999-5903. 🔗 DOI: `10.3390/fi14110314`.

Conference Proceedings

1 **S. Dhelim**, H. Ning, M. A. Bouras, and J. Ma, "Cyber-Enabled Human-Centric Smart Home Architecture," in *2018 IEEE SmartWorld Congress)*, IEEE, Oct. 2018, pp. 1880–1886, ISBN: 978-1-5386-9380-3. 🔗 DOI: `10.1109/SmartWorld.2018.00316`.

2 **S. Dhelim**, H. Ning, and T. Zhu, "STLF: Spatial-temporal-logical knowledge representation and object mapping framework," in *2016 IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, IEEE, Oct. 2016, pp. 001 550–001 554, ISBN: 978-1-5090-1897-0. 🔗 DOI: `10.1109/SMC.2016.7844459`.

3 N. Abdenacer, N. N. Abdelkader, A. Qammar, F. Shi, H. Ning, and **S. Dhelim**, "Task Offloading for Smart Glasses in Healthcare: Enhancing Detection of Elevated Body Temperature," in *2023 IEEE International Conference on Smart Internet of Things (SmartIoT)*, IEEE, Aug. 2023, pp. 243–250, ISBN: 979-8-3503-1657-5. 🔗 DOI: `10.1109/SmartIoT58732.2023.00044`.

4 N. Aung, T. Kechadi, T. Zhu, S. Zerdoumi, T. Guerbouz, and **S. Dhelim**, "Blockchain Application on the Internet of Vehicles (IoV)," IEEE, Nov. 2022, pp. 586–591, ISBN: 978-1-6654-6007-1. 🔗 DOI: `10.1109/ICITE56321.2022.10101404`.

Book Chapters

1 T. Zhu, **S. Dhelim**, Z. Zhou, S. Yang, and H. Ning, "An architecture for aggregating information from distributed data nodes for industrial internet of things," in *Cyber-Enabled Intelligence*, Taylor & Francis, 2019, pp. 17–35.

Teaching Experience

Fall 2023 🔖 **Cloud Computing (COMP47780)**
University College Dublin, Ireland.
Role: Teaching Assistant
Duties: Teaching practical sessions, Prepare practical materials, Exam correction, Practical correction.

Fall 2023 🔖 **Data Mining (COMP40370)**
University College Dublin, Ireland.
Role: Teaching Assistant
Duties: Teaching practical sessions, Prepare practical materials, Exam correction, Practical correction.

Spring 2022 🔖 **Ubiquitous computing**
Ulster University, UK
Role: Guest Lecturer

Teaching Experience (continued)

Spring 2014   ■ **Programming languages**
National Institute of Vocational Training, Algeria
Role: Lecturer

■ **Database Management Systems**
National Institute of Vocational Training, Algeria
Role: Lecturer

Mentoring

2017-2023   ■ **Dr. Amar Khelloufi**
University of Science and Technology Beijing, China.
Role: PhD Co-supervisor
Thesis: Service Recommendation in Social Internet of Things
🎓 Google Scholar

2018-2023   ■ **Dr. Abdenacer Naouri**
University of Science and Technology Beijing, China.
Role: PhD Co-supervisor
Thesis: Task Offloading in Mobile Edge Computing
🎓 Google Scholar

2018-2024   ■ **Dr. Abdelkarim Ben Sada**
University of Science and Technology Beijing, China.
Role: PhD Co-supervisor
Thesis: Selective Inference Task Offloading Under Time and Energy Constraints for Real-Time IoT Sensing Systems
🎓 Google Scholar

Academic Service

2021-2022   ■ **Lead Guest Editor**
Special Issue: Artificial Intelligence and Edge Computing
Journal: Symmetry

2023-2024   ■ **Guest editor**
Special Issue: Advances in 5G Wireless Edge Computing
Journal: Electronics

2022-2023   ■ **Lead Guest Editor**
Special Issue: Multi-modal information fusion and decision-making technology for robots
Journal: Frontiers in Neurorobotics Journal

2022-2023   ■ **Guest editor**
Special Issue: Current Trends and Future Perspectives on Computer Vision and Pattern Recognition
Journal: Applied Sciences

Academic Service (continued)

2024   **Lead program chair**
Conference: The 2024 IEEE International Conference on Digital Twin (Digital Twin 2024), Fiji.

2023   **Publicity chair**
Conference: The 2023 IEEE International Conference on Digital Twin (Digital Twin 2023), Portsmouth, UK.

2019   **Workshop chair**
Conference: The International Conference on Cyber-Living, Cyber-Syndrome and Cyber-Health 2019 (CyberLife 2019)

2019   **Workshop chair**
Conference: The International Conference on Cyberspace Data and Intelligence 2019 (CyberDI 2019).

Skills

Languages   English (Fluent), Arabic (Native), Chinese (Advanced), French (Advanced) and Burmese (beginner).

Coding   Python, Java, C/C++.

Databases   MongoDB, Redis, MySQL, PostgreSQL.

Web Dev   Angular (JavaScript/TypeScript), PHP(Laravel), Flask/FastAPI/Django, Bootstrap, Tailwind, RestAPI, GraphQL.

AI   Scikit-learn, TensorFlow, PyTorch, Keras.

Misc.   Docker, Kubernetes, RabbitMQ.