

Dr. Sahraoui Dhelim, Ph.D.

✉ sahraoui.dhelim@dcu.ie

🎓 Google Scholar

📄 ResearchGate

🌐 <https://sahraoui17.github.io/profile/>



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.

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 .**
Laghout 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










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 S. Boumaraf, M. A. Radi, F. O. Abdelhafez, P. Li, K. Y. Al Awadhi, H. Karki, **S. Dhelim**, and N. Werghi, "Vision-based air-flow monitoring in an industrial flare system design using deep convolutional neural networks," **Expert Systems with Applications**, vol. 272, p. 126 733, 2025, ISSN: 0957-4174.  DOI: <https://doi.org/10.1016/j.eswa.2025.126733>.
- 18 M. Usman Hashmi, A. Imran, A. Bilal, M. Garayev, H. Fathi, and **S. Dhelim**, "Resource-Limited Skew Estimation and Correction (RLSEC) for Edge Devices in Delay Non-Tolerant Networks," **IEEE Access**, vol. 12, pp. 159 597–159 610, 2024, ISSN: 2169-3536.  DOI: [10.1109/ACCESS.2024.3469581](https://doi.org/10.1109/ACCESS.2024.3469581).
- 19 H. Bouakkaz, M. Bouakkaz, C. A. Kerrache, and **S. Dhelim**, "Enhanced classification of medicinal plants using deep learning and optimized CNN architectures," **Heliyon**, vol. 11, no. 3, e42385, Feb. 2025, ISSN: 24058440.  DOI: [10.1016/j.heliyon.2025.e42385](https://doi.org/10.1016/j.heliyon.2025.e42385).
- 20 S. A. Kamal, Y. Du, M. Khalid, M. Farrash, and **S. Dhelim**, "DRSegNet: A cutting-edge approach to Diabetic Retinopathy segmentation and classification using parameter-aware Nature-Inspired optimization," **PLOS ONE**, vol. 19, no. 12, J. Wu, Ed., e0312016, Dec. 2024, ISSN: 1932-6203.  DOI: [10.1371/journal.pone.0312016](https://doi.org/10.1371/journal.pone.0312016).
- 21 Z. Lifelo, J. Ding, H. Ning, Qurat-Ul-Ain, and **S. Dhelim**, "Artificial Intelligence-Enabled Metaverse for Sustainable Smart Cities: Technologies, Applications, Challenges, and Future Directions," **Electronics**, vol. 13, no. 24, p. 4874, Dec. 2024, ISSN: 2079-9292.  DOI: [10.3390/electronics13244874](https://doi.org/10.3390/electronics13244874).
- 22 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](https://doi.org/10.1016/j.dcan.2021.01.002).
- 23 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](https://doi.org/10.1016/j.jnca.2017.09.002).
- 24 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](https://doi.org/10.1016/j.compeleceng.2016.08.018).
- 25 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](https://doi.org/10.1109/JIOT.2021.3064225).
- 26 **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](https://doi.org/10.1016/j.compeleceng.2019.106506).
- 27 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](https://doi.org/10.3390/fi14100289).
- 28 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](https://doi.org/10.3390/fi15050154).
- 29 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.
- 30 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](https://doi.org/10.3390/rs14225817).

- 31 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.
- 32 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.
- 33 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.
- 34 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.
- 35 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.
- 36 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.
- 37 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.
- 38 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.
- 39 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.
- 5 Y. Li, **S. Dhelim**, and M. T. Kechadi, "Estimation Winter Wheat Crop Yield through Multi-Modal Analysis using Satellite Imagery and Meteorological Data," in *2024 IEEE International Conference on Knowledge Graph (ICKG)*, IEEE, Dec. 2024, pp. 186–193, ISBN: 979-8-3315-0882-1.  DOI: 10.1109/ICKG63256.2024.00031.

- 6 Y. Li, **S. Dhelim**, L. Chen, and M.-T. Kechadi, "Remote Sensing Data for Predicting Crop Growth," in *Proceedings of the 19th International Conference, AIMSA 2024, Varna, Bulgaria, September 18–20, 2024*, 2025, pp. 12–26.  DOI: 10.1007/978-3-031-81542-3_2.
- 7 Y. Li, **S. Dhelim**, and M. T. Kechadi, "Predicting Winter Wheat Emergence and Stem Elongation Time using CNN," in *Proceedings of the 2024 16th International Conference on Machine Learning and Computing*, New York, NY, USA: ACM, Feb. 2024, pp. 153–160, ISBN: 9798400709234.  DOI: 10.1145/3651671.3651728.
- 8 Y. Li, S. S. E. Zainab, **S. Dhelim**, and M. T. Kechadi, "Weather Data and Agro-climate Indices – Comparative Study," in *Proceedings of the 2024 16th International Conference on Machine Learning and Computing*, New York, NY, USA: ACM, Feb. 2024, pp. 1–7, ISBN: 9798400709234.  DOI: 10.1145/3651671.3651729.
- 9 C. Aouiche, B. Chen, B. Shen, A. Aouiche, R. K. Singla, and **S. Dhelim**, "Comprehensive Detection of Known Attacks Using Integrated Datasets," in *2024 14th International Conference on Information Science and Technology (ICIST)*, IEEE, Dec. 2024, pp. 924–929, ISBN: 979-8-3503-5333-4.  DOI: 10.1109/ICIST63249.2024.10805263.

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

- | | |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spring 2025 |  Introduction to Machine Learning (CSC1157)
Dublin City University, Ireland.
Role: Lecturer/Module Coordinator
Duties: Teaching Lectures, supervising practical sessions, Preparing practical materials, Exam correction, Practical correction. |
| |  Application Domains 3 (CSC1112)
Dublin City University, Ireland.
Role: Lecturer/Module Coordinator
Duties: Teaching Lectures, supervising practical sessions, Preparing practical materials, Exam correction, Practical correction. |
| Fall 2024 |  Programming Fundamentals II (CSC1034)
Dublin City University, Ireland.
Role: Lecturer/Module Coordinator
Duties: Teaching Lectures, supervising practical sessions, Preparing practical materials, Exam correction, Practical correction. |
| Fall 2023 |  Cloud Computing (COMP4778o)
University College Dublin, Ireland.
Role: Teaching Assistant
Duties: Teaching practical sessions, Prepare practical materials, Exam correction, Practical correction. |



Teaching Experience (continued)

- 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
- 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

- 2024-Present  **Associate Editor**
Journal: Artificial Intelligence and Autonomous Systems
-  **Editorial Board Member**
Journal: Discover Analytics, Springer

Academic Service (continued)

- | | |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| 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. |