Dr. Hamza Djigal

Assistant Professor · Department of Computer Science

Wenzhou-Kean University, China · Since August 2023

Email: dhamza@kean.edu **Location:** Wenzhou, China

Nationality: Senegalese **Status:** Married

WKU Faculty Page:
csmt.wku.edu.cn/en/node/1884

ORCID:
orcid.org/0000-0003-1218-5682

Google Scholar:
scholar.google.com/citations?hl=en&user=Vw1FDkUAAAAJ

IEEE Xplore:
ieeexplore.ieee.org/author/37086086764

DBLP:
dblp.uni-trier.de/pid/203/5795.html

Bibliometrics: 502 citations · h-index = 8 · i10-index = 8 · 22+ publications

Research Interests

My research focuses on AI-driven resource allocation mechanisms for security-sensitive IoT applications in Multi-Access Edge Computing (MEC), aiming to advance both theory and practical solutions. Since my hire, I have expanded this agenda to interdisciplinary applications integrating Edge-cloud computing, IoT, and security-aware computing. My work combines rigorous computational modeling with practical implementation, ensuring impact for both academic and industrial communities.

- AI-driven Resource Allocation in Edge & Cloud Computing
- LLM Offloading and Execution in MEC
- Task Offloading and Scheduling in MEC Networks
- IoT Applications and Scientific Workflows
- Federated Learning
- UAV-assisted Computing for IoT Applications

Employment History

Assistant Professor — Wenzhou-Kean University

Aug 2023 — Present · Wenzhou, China · Department of Computer Science

Teaching undergraduate and graduate Computer Science courses; supervising research projects; serving on departmental and university committees.

Postdoctoral Fellow — Nanjing University of Posts and Telecommunications

Jun 2021 — Jun 2023 · Nanjing, China · Jiangsu Key Laboratory of Big Data Security and Intelligent Processing

Research on Artificial Intelligence for Resource Allocation in Multi-access Edge Computing. Investigated AI-based frameworks and algorithms for efficient joint task offloading and scheduling (JTOS) in MEC networks.

Supervisor: Prof. Jia Xu

JAVA JEE Architect — China Power Software

Jul 2018 — Jan 2019 · Nanjing, China

IBM Maximo EAM analysis and modeling. Asset, Work Order, Inventory modules coding using Spring MVC, Hibernate, JPA, Jasper Report, UML, and MySQL.

Lecturer — Cheikh Anta Diop University of Dakar

Jan 2015 — May 2016 · Dakar, Senegal · Department of Mathematics and Computer Science

Windows Server 2008 R2 Administrator — Embassy of the Republic of Senegal in the People's Republic of China

Oct 2012 — Jun 2014 · Beijing, China

Monitoring and network security in Windows Server 2008. Development of Senegalese Management System using PHP and JavaScript.

Education

Ph.D. in Computer Science and Technology

Hohai University · September 2016 — July 2020 · Nanjing, China

Thesis: Study on Scheduling Algorithms for Scientific Workflows in Heterogeneous Computing Systems

Supervisor: Prof. Jun Feng; Co-Supervisor: Assoc. Prof. Jiamin Lu

Master in Computer Science and Technology

Central China Normal University · September 2012 — July 2014 · Wuhan, China · Grade: 89.42/100 (A)

Thesis: Semantic Cache Strategy for Continuous Nearest Neighbor Query and Mobile Learning

Supervisor: Prof. Jincai Yang

Master in Algebra and Geometry Application

Cheikh Anta Diop University · October 2011 — July 2012 · Dakar, Senegal · Grade: 16.01/20 (A)

B.Sc. in Mathematics

Cheikh Anta Diop University · October 2007 — July 2010 · Dakar, Senegal · Grade: 12.50/20 (B+)

Publications (23)

Journal Articles

1. Tingting Hang, Shuting Liu, Wei Wu, Qiang Chen, Jun Feng, Hamza Djigal "*KHSPrompt: Key tokens retention augmentation and hard samples contrastive learning for few-shot relation extraction*", **Neurocomputing**, vol. 699, pp. 134421-134421, 2026. DOI: 10.1016/j.neucom.2026.134421.
2. Tingting Hang, Wei Wu, Shuting Liu, Jun Feng, Hamza Djigal "*GAPrompt: A soft prompt compression model for few-shot relation extraction*", **Knowledge-Based Systems**, vol. 330, pp. 114728-114728, 2025. DOI: 10.1016/j.knosys.2025.114728.
3. Tingting Hang, Shuting Liu, Jun Feng, **Hamza Djigal**, and Jun Huang "*Few-Shot Relation Extraction Based on Prompt Learning: A Taxonomy, Survey, Challenges and Future Directions*", **ACM Computing**

Surveys, vol. 58, no. 2, pp. Article 40 (38 pages), 2025. DOI: 10.1145/3746281.
IF=28.00 Q1 SCI Corresponding Author

4. Tingting Hang, Wei Wu, Jun Feng, **Hamza Djigal**, and Jun Huang "*A Survey of Few-Shot Relation Extraction Combining Meta-Learning with Prompt Learning*", **Neurocomputing**, vol. 647, pp. 130534, 2025. DOI: 10.1016/j.neucom.2025.130534.
IF=6.50 Q1 SCI Corresponding Author

5. Ju Chen, Jun Feng, Shenyu Zhang, Xiaodong Li, **Hamza Djigal** "*Robust Annotation Aggregation in Crowdsourcing via Enhanced Worker Ability Modeling*", **Information Processing & Management**, vol. 62, no. 1, pp. 103914, 2025. DOI: 10.1016/j.ipm.2024.103914.
IF=7.40 Q1 CCF B SCI

6. Muhammad, A.U., **Djigal Hamza**, Muazu, T. et al. "*An Autoencoder-Based Stacked LSTM Transfer Learning Model for EC Forecasting*", **Earth Science Informatics**, vol. 16, no. 4, pp. 3369-3385, 2023. DOI: 10.1007/s12145-023-01096-3.
IF=2.70 Q2 SCI

7. **Hamza Djigal**, Jia Xu, Linfeng Liu, and Yan Zhang "*Machine and Deep Learning for Resource Allocation in Multi-Access Edge Computing: A Survey*", **IEEE Communications Surveys and Tutorials**, vol. 24, no. 4, pp. 2449-2494, 2022. DOI: 10.1109/COMST.2022.3199544.
IF=50.60 Q1 SCI First Author

8. **Hamza Djigal**, Feng Jun, Jiamin Lu, and Jidong Ge "*IPPTS: An Efficient Algorithm for Scientific Workflow Scheduling in Heterogeneous Computing Systems*", **IEEE Transactions on Parallel and Distributed Systems**, vol. 32, no. 5, pp. 1057-1071, 2021. DOI: 10.1109/TPDS.2020.3041829.
IF=6.00 Q1 CCF A SCI First & Corresponding Author

Conference Proceedings

1. Zhang, C., Xue, Q., **Hamza Djigal** "*ByteBridge: Diagnosing the Limits of Byte Input Adapters for Frozen Tokenizer-Based Language Models*", **Pacific Rim International Conference on Artificial Intelligence (PRICAI), Springer LNAI**, 2026.
CCF C Accepted Corresponding Author

2. Zhang, C., Xue, Q., **Hamza Djigal** "*SCMD: Security-Constrained Multi-Predecessor Duplication Algorithm for Scientific Workflow Scheduling in IaaS Clouds*", **International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP), Springer LNCS**, 2026.
CCF C Accepted Corresponding Author

3. Xue, Q., **Hamza Djigal**, Zhang, C. "*Look Before Scheduling: A Low-Cost Supervised Graph Scheduler for Dynamic Workflows*", **Asian Conference on Machine Learning (ACML), Proceedings of Machine Learning Research, vol. 353**, 2026.
CCF C Accepted Corresponding Author

4. Jiao, L., **Hamza Djigal**, Ba, A.F., Muhammad, A.U. "*MPPTS: Multi-Factor Predictive Priority Task Scheduling Algorithm for Heterogeneous Systems*", **ICA3PP 2025 — Springer LNCS**, 393-412, 2025. DOI: 10.1007/978-981-95-8402-4_21.
CCF C EI, Scopus Corresponding Author

5. Ni, X., **Hamza Djigal**, Ba, A.F., Muhammad, A.U. "*BUCAS: Budget Constrained Application Scheduling in IaaS Clouds*", **ICA3PP 2025 — Springer LNCS**, 367-379, 2025. DOI: 10.1007/978-981-95-8411-6_28.
CCF C | EI, Scopus | Corresponding Author

6. Farahbakhshian, S.F., Jun, F., **Hamza Djigal**, Fakhartousi, A. "*Adaptive Budget-Constrained Resource Provisioning for Workflow Scheduling in IaaS Clouds*", **ICA3PP 2025 — Springer LNCS**, 324-338, 2025. DOI: 10.1007/978-981-95-8411-6_25.
CCF C | EI, Scopus | Corresponding Author

7. Q. Xue, **Hamza Djigal**, M. Cheraghy "*Performance Evaluation of Q-Learning-Based List Scheduling Algorithms in Heterogeneous Systems*", **2024 IEEE International Conference on Computer and Communications (ICCC)**, 343-350, 2024. DOI: 10.1109/ICCC62609.2024.10941813.
EI, Scopus | Corresponding Author

8. **Hamza Djigal**, L. Liu, J. Luo and J. Xu "*BUDA: Budget and Deadline Aware Scheduling Algorithm for Task Graphs in Heterogeneous Systems*", **2022 IEEE/ACM 30th International Symposium on Quality of Service (IWQoS)**, 1-10, 2022. DOI: 10.1109/IWQoS54832.2022.9812865.
CCF B | EI, Scopus | First Author

9. **Hamza Djigal**, Jun Feng, and Jiamin Lu "*Task Scheduling for Heterogeneous Computing using a Predict Cost Matrix*", **48th International Conference on Parallel Processing (ICPP 2019)**, 10 pages, 2019. DOI: 10.1145/3339186.3339206.
CCF B | EI, Scopus | First & Corresponding Author

Patents

- *A Task Scheduling Method with Cost Budget Constraints in Heterogeneous System* — Hamza Djigal, Jia Xu, Wenbin Chen, Lulu Fan, Yining Zhang, Lingyun Jiang, Weifeng Lu, Fu Xiao. Application No: 202211400617.3, Date: 2022.11.10 · China.
- *A Method for Scheduling Application Tasks in a System of Heterogeneous Processors* — Hamza Djigal, Jia Xu, Wenbin Chen, Yimin Zhang, Xinshi Yu, Lingyun Jiang, Deqiang Li, Fu Xiao. Application No: 202211280665.3, Date: 2022.10.19 · China.

Research Grants & Scholarships

- **Sep 2024 — Sep 2025:** Student Partnering with Faculty (SpF). *Security-Sensitive Resource Allocation Mechanisms for IoT in MEC*. **30,000 RMB**. Principal Investigator.
- **Sep 2024 — Sep 2025:** Student Partnering with Faculty (SpF). *Performance Analysis of SCMA Cellular Networks by using RIS and ML*. **20,000 RMB**. Co-Principal Investigator.
- **Jan 2024 — Dec 2026:** Internal (Faculty/Staff) Start-Up Research Grant (ISRG) (grant ISRG2023024). *Research on Intelligent Resource Allocation Mechanisms for Internet of Medical Things in Multi-access Edge Computing*. **250,000 RMB**. Principal Investigator.
- **Jan 2022 — Dec 2022:** National Foreign Expert Program of China (grant QN2022014001). *Research on Reinforcement Learning-Based Offloading and Scheduling Mechanisms in Multi-access Edge Computing*. **200,000 RMB ($29,000)**. Principal Investigator.
- **Sep 2016 — Jul 2020:** China Scholarship Council. *Ph.D. Scholarship*. Principal Investigator.

- **Sep 2012 — Jul 2014:** China Scholarship Council. *Master Scholarship*. Principal Investigator.

Service

Professional Service

- **Reviewer — IEEE Transactions on Mobile Computing.** (IF=7.70, Q1)
- **Reviewer — IEEE Access.** (IF=3.40, Q1)
- **Reviewer — The Journal of Supercomputing.** (IF=2.50, Q2)
- **Reviewer — Neural Computing & Applications.** (IF=4.50, Q1)
- **Reviewer — IEEE Internet of Things Journal.** (IF=8.90, Q1)
- **Shadow PC Reviewer — EuroSys 2025.** Reviewed 4 full research papers and provided feedback to authors (Fall 2024).
- **Technical Committee & Reviewer — CSAI 2024 — 8th International Conference on Computer Science and Artificial Intelligence.** Beijing, China, Dec 6–8, 2024.
- **Technical Committee Member — ICCC 2024 — 10th International Conference on Computer and Communications.** Chengdu, China, Dec 13–16, 2024.

University Service

- **Faculty Member — Students Recruitment 2023-2024 — Wenzhou-Kean University.**
- **Speaker — Faculty Research Day 2025 — Wenzhou-Kean University.** Topic: "When and When Not to Use AI in Research: A General Decision Framework, With Comparative Insights from Computer Science and Sociology"
- **Attendee — World Young Scientist Summit 2023.**

Department Service

- **Computer Club Advisor — Wenzhou-Kean University CS Department.** Co-advising monthly two-hour meetings with more than 78 students. Each session begins with an overview of club objectives, tasks, and projects, followed by group progress presentations, Q&A, and feedback.
- **Chair of the Curriculum Committee — Wenzhou-Kean University CS Department.** Leading the review, development, and assessment of departmental curricula. Oversees regular monthly committee meetings.
- **Member of the Academic Committee — Wenzhou-Kean University CS Department.**
- **Member of the Search Committee — Wenzhou-Kean University CS Department.** Faculty search committee. Reviewing applications, shortlisting candidates, coordinating interviews, and providing recommendations to support hiring decisions.
- **Student Advisor — Wenzhou-Kean University.** Advising 49+ undergraduate and graduate students on academic planning, course selection, and career development.

Teaching Experience

Courses taught at Wenzhou-Kean University since 2023. Average evaluation: **4.33/5**.

- **Fall 2025:** CPS 3250 (Computer Operating Systems) — 2 sections — Undergraduate
- **Fall 2025:** CPS 2231 (Computer Programming) — 2 sections — Undergraduate
- **Spring 2025:** CPS 3962 (Object Oriented Analysis & Design) — 2 sections — Undergraduate

- **Spring 2024:** CPS 3320 (Python Programming) — Undergraduate
- **Fall 2024:** CPS 5745 (Interactive Information Visualization) — Graduate
- **Fall 2023:** CPS 4883 (Cloud Computing (Independent Study)) — Undergraduate

Awards

- **2025:** Best Oral Presentation Award (supervised student) — *Wenzhou-Kean University — Student Research Day*

Invited Talks

- **CNRIA 2025**: AI-driven Resource Allocation in Multi-access Edge Computing
- **CEII 2024**: AI-driven MEC Research Overview

Languages

- **French:** Native or bilingual proficiency
- **English:** Full professional proficiency
- **Chinese (Mandarin):** Intermediate proficiency
- **Arabic:** Reading and writing proficiency