

Rahmat Ullah, Ph.D

Lecturer in Computer Science | Computational Imaging, Digital Health & Healthcare AI

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Summary

Lecturer in Computer Science with experience in module leadership, curriculum design, and student supervision across undergraduate and postgraduate programmes in UK higher education. My teaching spans software engineering, large-scale systems, and applied artificial intelligence, emphasising practice-oriented, industry-relevant skills, and is complemented by an active research profile in healthcare AI, computational imaging, and biomedical signal processing. I am keen to contribute to programme development and applied, interdisciplinary research that strengthens the link between computer science education and real-world practice.

Employment History

06/2023 – Present ♦ **Lecturer**, University of Essex, UK.

- Module leader for undergraduate and postgraduate software engineering modules, including Large-Scale Software Systems, Extreme Programming, and project-based group modules.
- Design and deliver teaching for large cohorts (80+ students), integrating lectures, labs, and project-based learning aligned with programme learning outcomes.
- Redesigned curriculum to incorporate industry-standard tools (Git, Tuleap) and agile methodologies, improving student engagement and employability skills.
- Supervise undergraduate and MSc dissertations in applied AI, software systems, and digital health.
- Contribute to module coordination, assessment, and quality assurance processes within the programme.
- Conduct interdisciplinary research in AI-driven healthcare and biomedical signal processing.

04/2022 – 05/2023 ♦ **Research & Development Associate**, University of South Wales, UK.

- Delivered teaching, seminars, and workshops in computing, data science, and AI to both academic and industry-facing audiences.
- Contributed to applied research and development projects in AI, ML, and digital health.
- Collaborated with industry partners on practical computing solutions to supporting knowledge transfer.
- Supported competitive funding applications, including European Regional Development Fund initiatives.

10/2018 – 04/2022 ♦ **Teaching Assistant**, University of Edinburgh, UK.

- Supported delivery of undergraduate engineering and computing modules through laboratory teaching, assessment, and student support.
- Provided structured feedback to reinforce programming and software engineering concepts.
- Co-supervised undergraduate and MSc projects, supporting research and technical development.

04/2017 – 08/2018 ♦ **Lecturer**, Iqra National University, Pakistan.

- Delivered undergraduate and postgraduate teaching in software engineering/programming.
- Designed course materials, assessments, and lab activities aligned with programme requirements.
- Supervised undergraduate and MSc research projects in computing and software systems.

Teaching and Curriculum Development

- Led curriculum redesign for Large-Scale Software Systems and Extreme Programming, to align teaching with professional software development practices.
- Apply constructive alignment principles to integrate learning outcomes, teaching activities, and assessments, ensuring coherence between theoretical content and practical application.
- Develop project-based learning environments based on agile methodologies (sprint planning, pair programming, and iterative development) that simulate real-world software engineering workflows.
- Design structured, milestone-based assessment strategies with iterative feedback, enabling continuous student improvement and reflective learning.
- Supervise undergraduate and MSc dissertations (typically 10–12 students annually) in artificial intelligence, software systems, and digital health.
- Use surveys, engagement monitoring, Poll Everywhere, and group problem-solving to adapt teaching to diverse learners.
- Support employability through practice-oriented teaching, encouraging portfolio-ready projects on GitHub, alongside inclusive and accessible learning design for diverse skill levels.

Academic Leadership and Professional Service

Internal Academic Leadership, CSEE, Essex

- Degree Apprenticeships Coordinator, coordinating delivery, engagement, and End-Point Assessment.
- Internal moderator for Essex Pathways examinations, ensuring consistency, fairness, and academic standards across assessed modules.
- PhD co-supervisor, supporting postgraduate research in AI, software systems, and digital health.

Editorial Roles

- Guest Editor, *MDPI Systems* Special Issue, “[Decision Making in Software Project Management](#)”; overseeing peer review and editorial decisions.

Conference Roles

- Track Chair, Computational Intelligence and AI Techniques, [ICCTA 2026](#); responsible for paper review coordination and session leadership.
- Programme Committee Member, [ICNCDA 2026](#); contributing to peer review.
- Scientific Committee Member, [AISTEMEDU 2025](#); supporting academic quality and review processes.

External Examination

- External Examiner for Software Engineering and Computer Science programmes at [De Montfort University](#) and [University of Greater Manchester](#).
- PhD thesis examiner and viva voce panel member, NUST, Pakistan.

Education

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| 2018–2022 | ◇ PhD in Engineering , The University of Edinburgh, Edinburgh, United Kingdom.
Thesis: <i>Data-Driven Microwave Imaging and Processing Techniques for Monitoring Neurodegenerative Diseases</i> . |
| 2015–2017 | ◇ MSc in Software Engineering (CGPA: 3.69/4.00), COMSATS University, Islamabad, Pakistan.
Thesis: <i>A Holistic Visual Data Center Simulator</i> . |
| 2010 – 2014 | ◇ BS in Information Technology (CGPA: 3.90/4.00), University of Malakand, Dir, Pakistan.
Final-year project: <i>Smart Store Records: Automating Works Department Inventory Management</i> . |

Skills

Programming and Data Analysis	◇ Python (machine learning, data analysis), MATLAB (signal processing, modelling), C/C++ (systems programming), SQL (data management).
Technical and Research Tools	◇ Git (version control), LaTeX and Overleaf (academic writing), CST Studio Suite (electromagnetic modelling), Vivado (hardware design), data analysis and signal processing workflows.
Teaching and Academic Practice	◇ Module leadership, curriculum delivery, assessment design and moderation, undergraduate and postgraduate supervision.
Languages	◇ English (fluent), Urdu (native), Pashto (native).

Selected Research Publications

Selected publications in artificial intelligence, biomedical signal processing, and digital health. Full publication list available at: [Google Scholar](#).

Selected Journal Articles

- 1 S. Khan, U. Anwar, K. Khurshid, **R. Ullah**, T. Arslan, and M. Ahmed, "Ai-driven emg monitoring and decision support framework," *IEEE Sensors Journal*, 2026.
- 2 X. Chen, D. Zeng, **R. Ullah**, R. Nawaz, J. Xu, T. Arslan, et al., "A deep learning approach for non-invasive alzheimer's monitoring using microwave radar data," *Neural Networks*, vol. 181, p. 106 778, 2025.
- 3 **R. Ullah**, I. Asghar, R. Nawaz, C. Stacey, S. Akbar, and P. Bishop, "A real time action scoring system for movement analysis and feedback in physical therapy using human pose estimation," *Scientific Reports*, vol. 15, no. 1, p. 44 784, 2025.
- 4 **R. Ullah**, I. Asghar, and M. G. Griffiths, "An integrated methodology for bibliometric analysis: A case study of internet of things in healthcare applications," *Sensors*, vol. 23, no. 1, 2023, ISSN: 1424-8220.
- 5 **R. Ullah**, Y. Dong, T. Arslan, and S. Chandran, "A machine learning-based classification method for monitoring alzheimer's disease using electromagnetic radar data," *IEEE Transactions on Microwave Theory and Techniques*, pp. 1–15, 2023. DOI: [10.1109/TMTT.2023.3245665](#).
- 6 **R. Ullah**, I. Saied, and T. Arslan, "Multistatic radar-based imaging in layered and dispersive media for biomedical applications," *Biomedical Signal Processing and Control*, vol. 82, p. 104 568, 2023, ISSN: 1746-8094.
- 7 **R. Ullah**, I. Saied, and T. Arslan, "Measurement of whole-brain atrophy progression using microwave signal analysis," *Biomedical Signal Processing and Control*, vol. 71, p. 103 083, 2022.
- 8 **R. Ullah**, N. Ahmad, S. U. Malik, S. Akbar, and A. Anjum, "Simulator for modeling, analysis, and visualizations of thermal status in data centers," *Sustainable Computing: Informatics and Systems*, vol. 19, pp. 324–340, 2018.

References

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