

Dr. Abdul Haleem Butt

PERSONAL DATA

[HTTPS://WWW.LINKEDIN.COM/IN/ABDUL-HALEEM-B-93973823/](https://www.linkedin.com/in/abdul-haleem-b-93973823/)

[HTTPS://SCHOLAR.GOOGLE.IT/CITATIONS?USER=EW20IFUAAAAJ&HL=EN](https://scholar.google.it/citations?user=EW20IFUAAAAJ&hl=en)

EDUCATION

Sep 2015 – Feb 2019 Doctor of Philosophy in BioRobotics, The BioRobotics Institute, Scuola Superiore Sant'Anna Pisa, Italy.

Obtained Scores: 100/100

Thesis Title: FIRST PRINCIPAL DATA-DRIVEN MODELS IN NEUROLOGICAL DISEASES WITH WEARABLE TECHNOLOGY: PARKINSON DISEASE AND POST STROKE.

Supervisor: Prof. Filippo Cavallo

April.2018- July 2018 Ph.D. Fellow Eurocat Biomechanics Line of E-Health Unit in Fundacio Eurecat Barcelona, Spain

Jan 2010 – Mar 2012 Master of Science in Computer Engineering, Specialization in Artificial Intelligence, Dalarna University, Borlange, Sweden
GPA: 4.3/5

Program Description: This master program was focused on core and advance topics in Artificial Intelligence

Thesis: Speech Assessment for the Classification of Hypokinetic Dysthria in Parkinson Disease.

Supervisor: Prof. Jerker Westin

Sept. 2004-Jul 2008 Bachelor of Science in COMPUTER ENGINEERING, **University of Engineering and Technology**, Taxila Pakistan
GPA: 3.0/4.0

WORK EXPERIENCE

Feb. 2023 - Current Senior Research Fellow

The Department of Biomedical and Neuromotor Sciences
Alma Mater Studiorum - UNIVERSITA' DI BOLOGNA, Italy

July. 2020 – Jan.2023 Assistant Professor and Program Lead of Artificial Intelligence

The Department of Creative Technologies, Faculty of Computing and Artificial Intelligence, Air University, Islamabad Pakistan

Feb. 2019-Sep2020 Post-Doctoral Researcher at Assistive Robotics Lab, The BioRobotics Institute, Scuola Superiore Sant'Anna Pisa, Italy

April.2018-July 2018 Ph.D. Fellow Eurocat Biomechanics Line of E-Health Unit in Fundacio Eurecat Barcelona, Spain

Nov. 2013-Aug2015 Lecturer at Computer Science Department, The University of Lahore, Lahore
I have successfully handled the courses: Programming Fundamentals, Object Oriented Programming, Digital Logic and Design, Artificial Intelligence

Sept. 2008-Jan 2010 Rollout Engineer, The China Mobile Zong Islamabad Pakistan
I was responsible for BSCs extension, planning and monitoring of the daily traffic monitoring.

Organizational / Managerial skills

- I have experience of the Managerial Moderator for the European project (Echord++ Keraal). The main aim of this project was to provide robot-mediated physical exercises for people suffering from low back pain. My experience includes coordinating with partners and, monitoring and evaluating the project, providing technical support and then making suggestions for ways to make improvements. It also includes managing the development and design of all assessments, preparing progress reports, and monitoring and following the progress of the project.

SKILLS

Deep learning frameworks (Matlab), Programming languages (C/C++, Python, R)
MATLAB, OpenCV

TEACHING COURSES AND CERTIFICATION

Advance Artificial Intelligence, Time series analysis, and Prediction in R (DataCamp Certification), Machine learning for Time-series Data in Python (DataCamp Certification), Programming Fundamentals, Object-Oriented Programming, Digital Logic and Design

PROJECTS PARTICIPATION AND COLLABORATIONS

- Ageing well in an ageing society (Age-IT) is one of 14 extended partnerships funded nationally under the PNRR, through Mission 4 "Education and research", component 2 "From research to business"
- Deforestation in Pakistan: Combating through Wireless Sensor Networks (DePWiseN). Innovative and Collaborative Research Grant under Pakistan UK Education Gateway (ICRG-2020)
- Analysis of Ambient Sound in Home Environments, Halmstad University, Sweden (2022)
- "DAPHNE—innovative and sustainable services for early diagnosis, therapy support and management of Parkinson's disease by means of mHealth and ICT technologies" supported by a grant from Regione Toscana, Bando FAR-FAS 2014.
- European Clearing House for Open Robotics Development (ECHOR): Kinesiotherapy and Rehabilitation for Assisted Ambient Living (Keraal)
- Progettazione e sviluppo di soluzioni ICT e robotica per interazione uomo-macchina in applicazioni di industria 4.0
- CAPSULA: Central Automated Process for Sterilization Units in a Lean Activity POR FESR 2014 2020 linea 1
- ACCRA: Agile CoCreation of Robots for Ageing (GA 7382)
- CORSA: Congelamento Robotico sicuro di sacche di plasma Bando POR FESR 20142020 linea 2 DOMO4MAB
- E-Motions Dalarna University Sweden

JOURNAL PUBLICATIONS

- Butt et al, Impact of Tree Cover Loss on Carbon Emission: A Learning-Based Analysis. Computational Intelligence and Neuroscience Hindawi (2022) Accepted IF: 3.4
- Iqbal et al, Estimation and Comparison of Ensemble Classification Performance using Statistical Analysis for Highly Imbalanced Data. Computational Intelligence and Neuroscience Hindawi (2022) UnderReview IF: 3.4
- Imran et al, Performance Evaluation of Classification Algorithms for Intrusion Detection on NSLKDD Using Rapid Miner International Journal of Innovations in Science & Technology (accepted 2021)
- Imran et al, Natural Language to SQL Queries: A Review. International Journal of Innovations in Science & Technology (accepted 2021)
- M.I.Khan et al, International Journal of Innovations in Science & Technology, "Activity Detection of Elderly People Using Smartphone Accelerometer and Machine Learning Methods. International Journal of Innovations in Science & Technology (accepted 2021)
- Butt, A.H, Rovini, E., Fujita, H. *et al.* Data-Driven Models for Objective Grading Improvement of Parkinson's Disease. *Ann Biomed Eng* **48**, 2976–2987 (2020). IF: 4.0
- Butt, Abdul Haleem, et al. "Biomechanical parameter assessment for classification of Parkinson's disease on clinical a scale." *International Journal of Distributed Sensor Networks*13.5 (2017): 1550147717707417. IF = 2.0
- Butt, A. H., et al. "Objective and automatic classification of Parkinson's disease with Leap Motion controller." *Biomedical engineering online* 17.1 (2018): 168. IF = 2.8

CONFERENCE PUBLICATIONS

- Asifa, et al A Machine Learning Approach for Vehicle Detection and Tracking over Novel Aerial Image 24th IEEE International Multi Topic Conference 2022 (accepted)
- A.H. Butt, F. Cavallo, C. Maremmani and E. Rovini, "Biomechanical parameters assessment for the classification of Parkinson Disease using Bidirectional Long Short-Term Memory", *2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, 2020, pp. 5761-5764, doi: 10.1109/EMBC44109.2020.9176051
- Butt, Abdul Haleem, et al "Assessment of Purposeful Movements for Post-Stroke Patients in Activities of Daily Living with Wearable Sensor Device" (16th IEEE International Conference on Computational Intelligence in Bioinformatics and Computational Biology 2019)
- Butt, Abdul Haleem, et al. "Leap motion evaluation for assessment of upper limb motor skills in Parkinson's disease." *2017 International Conference on Rehabilitation Robotics (ICORR)*. IEEE, 2017.
- Butt, Abdul Haleem, et al "SPEECH ASSESSMENT FOR THE CLASSIFICATION OF HYPOKINETIC DYSARTHRIA IN PARKINSON DISEASE" Paper Presented in ICNR & NRC 2014 (www.ijrs.org/ojs/index.php/IJRS/article/download/181/144/)
- Butt, Abdul Haleem, et al. "Wearable Sensors for Gesture Analysis in Smart Healthcare Applications." *Human Monitoring, Smart Health and Assisted Living: Techniques and Technologies* 9 (2017): 79

CHAPTER

- Butt, Abdul Haleem, et al. "Wearable Sensors for Gesture Analysis in Smart Healthcare Applications." *Human Monitoring, Smart Health and Assisted Living: Techniques and Technologies* 9 (2017): 79

ACHIEVEMENTS

1. Post-Doc Research grant with maximum scores in BioRobotics Scuola Superiore Sant'Anna, Italy.
2. Ph.D. in Biorobotics with the maximum scores 100/100.
3. Doctoral Scholarship for Ph.D. in BioRobotics Scuola Superiore Sant'Anna, Italy.
4. Erasmus Scholarship for study abroad period in Eurecat, Centre Tecnològic de Catalunya, eHealth Unit Barcelona Spain.

REVIEWS

1. Applied Intelligence (APIN), Springer
2. Sustainability, MDPI

MS. THESIS SUPERVISED

1. **Objective assessment of Activities of Daily Livings in Post-Stroke Patients Using Wearable Sensors** by Hassan Siddique, Department of Creative Technologies, Masters in Artificial Intelligence Air University Islamabad (Completed)
2. **Comparative Analysis of Geo Statistical and Geo-Spatial Data for Deforestation Prediction** by Ata ur Rehman, Department of Creative Technologies, Masters of Science in Artificial Intelligence, Air University Islamabad
3. NLP Based Videos **Ranking on Social Media Platforms by using Artificial Intelligence Techniques** by Zain ul Abideen, Masters of Science in Artificial Intelligence, Department of Creative Technologies, Air University Islamabad
4. **Analysis of Ambient Sound in Home Environments for Activity Classification using Machine and Deep learning** by Ahsan Sabbir, Master of Science in Data Science, Department of Creative Technologies Air University Islamabad
5. **Deep Learning Estimations over Network Traffic Monitoring and Tracking using aerial images** by Asifa Mehmood Qureshi, Masters of Science in Artificial Intelligence, Department of Creative Technologies Air University Islamabad

PH.D. THESIS CO-SUPERVISED

1. Detection of Activity of Daily living of Post-stroke patients using wearable sensors by Awais Ahmed, University of Science and Technology China.

LANGUAGES

URDU: Mother tongue
ENGLISH: Fluent