Dr. Joyjit Chatterjee

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LinkedIn: www.linkedin.com/in/joyjitchatterjee **Personal Website:** https://joyjitchatterjee.github.io
Google Scholar: https://scholar.google.co.uk/citations?user=kjWYrm4AAAAJ&hl=en

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Data Scientist (KTP Research Associate) at Reckitt, UK | Forbes 30 Under 30 Europe | Green Talents Awardee (German Govt.) | PhD Computer Science and PGDip (Hull, UK) | E&C Engineer (Gold Medalist)
Lifelong learner on the quest for knowledge - Passionate about applying AI for Social Good with diverse research experience in the wind energy sector (past) and consumer goods industry (present).

EXECUTIVE SUMMARY

- Presently working as a Data Scientist (KTP Associate) at the Multinational Consumer Goods Company - Reckitt (Reckitt Benckiser Group PLC), UK. My role involves developing novel AI/ML algorithms for improving stability testing of consumer goods.
- Part of the prestigious Forbes 30 Under 30 Europe 2022 (Manufacturing and Industry) list for impactful work on developing AI products that can help bolster manufacturing and energy processes.
- Recipient of Green Talents Award from the German Federal Ministry of Education and Research for outstanding sustainability research.
- Hold a PhD. in Computer Science in the domain of Explainable Artificial Intelligence for Operations and Maintenance of Wind Turbines at the University of Hull, UK under a PhD. Scholarship by Aura Innovation Centre and University of Hull.
- Published an array of research papers in Computer Science & Renewable and Sustainable Energy Domains (including in leading AI conferences/workshops such as NeurIPS, KDD, IJCNN, ECAI etc., and reputed journals by Elsevier, Wiley, IOP etc.), filed patents and delivered talks at leading research institutions globally (Carnegie Mellon University, ETH Zurich etc.).
- Received top-cited author accolade from reputed publishers such as Wiley for authoring highly-cited journal papers.
- Research and engagement activities have been covered by leading newspapers and media platforms across the globe such as Asia Times (Hong Kong), Economic Times (India) , Bristol NewsToday (UK), Sheffield NewsToday (UK), Hull NewsToday (UK), Kathmandu Post (Nepal), Yahoo News (USA), Pehal News (India), Udaya Vani (India) and shared widely by influencers on social media platforms like Twitter.
- Program committee member and reviewer for leading international conferences/workshops (such as NeurIPS, ICLR etc.), reputed international journals (like Elsevier's Energy and AI, Springer's Artificial Intelligence Review, Taylor & Francis' Technology Architecture Design etc.), and authored books and articles in leading global venues.
- Certified Professional Scrum Master (PSM-1) with a sound understanding of Agile product management.
- Recipient of several honors and awards throughout academic career, including grants, scholarships and awards from industry, academia and governments.
- Possess an excellent and an outstanding academic record throughout academic career.
- Research Interests span Deep Learning, Natural Language Processing and Generation, Knowledge Graphs, Causal Inference, Time-Series Analysis and Signal Processing, for the broader goal of Explainable AI.

WORK EXPERIENCE

Data Scientist (Knowledge Transfer Partnership Associate) at Reckitt (Reckitt Benckiser Group PLC) and University of Hull, United Kingdom (Oct 2021-Present)

- Pursuing the Knowledge Transfer Partnership (KTP) as a part of the Innovate UK scheme with funded support from UK Research and Innovation (UKRI) - a UK government agency promoting research and innovation, and additional funding from Reckitt.
- Working as a Data Scientist (Research Associate) in close collaboration with Reckitt and the University of Hull, UK – translating academic knowledge into commercially viable solutions and demonstrating how they can be effective in an operational corporate context.
- Researching latest techniques in data analytics and AI, and applying them in the context of the KTP to plan development and meet milestones and deliverables.
- Developing novel AI models and algorithms for improving the predictive stability testing procedures for new product formulations (including in the face of limited or no data) in the consumer goods industry and accelerating the predictive stability testing processes for existing product formulations.
- Focusing on developing a strategic and ambitious long-term plan for the use of intelligent data analysis in product design and testing at Reckitt.
- An integral goal is to investigate the integration of an explainable AI component to train AI models that make predictions in a transparent manner and provide a novel understanding of the target domain alongside highly-quality predictions.

- Working work closely with the company colleagues at Reckitt and focusing on expanding their skill set and knowledge in the areas of data analytics and AI (e.g. by organising IT Learning Sessions, participating in meetings and discussions with various company colleagues, delivering specialised workshops etc. from time to time).
- Collaborating with academic and company staff, communicating various technical concepts appropriately and effectively to different stakeholders.
- Participating as a panel member during recruitment processes at the University of Hull for interviewing postdoctoral researchers and research associates in the domain of data analytics, data science and AI.
- Role also includes writing up results in the form of technical reports or research publications (as appropriate).

PhD. Student-Researcher, University of Hull, United Kingdom (Sep 2018-Sep 2021)
(More details in the "Academic Credentials" section later in this CV)
- Applied Deep Learning techniques to real-world data from wind turbine sensors (SCADA) and alarm records towards developing an explainable decision support system for engineers & technicians to support operations and maintenance (O&M) in the offshore wind industry.
- Research focussed on optimising O&M through automated data-driven decision making during condition-based monitoring (CBM), for reducing O&M costs and making wind turbines more reliable.
- Closely collaborated with leading wind farm operators and research organisations such as ORE Catapult, UK.
- Leveraged Explainable AI techniques such as Natural Language Generation, Temporal Causal Inference and Knowledge Graphs for Explainable Anomaly Prediction, O&M Planning and Generation of Human-Intelligible Decision Support Reports for bridging the gap between accuracy and transparency in conventional black-box machine learning models.
- Developed a complete question-answering system for interactive decision support by integrating state of the art AI models with a domain-specific knowledge graph to facilitate O&M in the wind industry.
- Worked as a part of the Aura Wind Energy PhD. Cluster (https://aurawindenergy.com) and Dependable Intelligent Systems/Big Data Analytics Research Group (https://bda-hull.github.io) at the University.

Technology Intern, Bright Network, London, United Kingdom (July-Aug 2020)
- Pursued Internship in the Technology Segment as a part of Internship Experience UK programme organised by the Bright Network.
- Focused on industry best practices in Agile Software Development, Communications, Product Development Planning and Management alongside Testing and Deployment for incorporating Facial Verification technology into existing banking apps.

Research Intern, **Tamkang University, Taipei, Taiwan** (Jan-March 2018)
- Worked in the area of machine learning, pattern recognition and signal processing on a project funded by the Ministry of Education, Taiwan as a part of TEEP@India research program.
- Designed a software application for recognizing emotions in human speech signals, by applying data analytics and signal processing techniques.

System Verilog Trainee, Mentor Graphics (A Siemens Business), Noida, India (May-July 2017)
- Selected for the highly prestigious internship opportunity among 30 students from across India as a part of Mentor Higher Education Program on Verification of Electronic Design and Systems using System Verilog.
- Used Verilog for Electronic Systems Design in various projects, including Universal Asynchronous Receiver Transmitter, 8-bit and 16-bit RISC Microprocessor, First-In-First-Out (FIFO) buffer etc.

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ACADEMIC CREDENTIALS

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PhD. Computer Science; 2018-2021
University of Hull, United Kingdom (Dependable Intelligent Systems/Big Data Analytics Research Group)
Research Project: Autonomous Prediction and Scheduling of Operations and Maintenance for Offshore Wind Farms (PhD. Scholarship Research Cluster as a part of Aura Innovation Centre and University of Hull)
Thesis Title: The Blessings of Explainable AI in Operations & Maintenance of Wind Turbines
PhD. Examiners: External Examiner – Dr. James Carroll (University of Strathclyde), Internal Examiner – Dr. Yongqiang Cheng (University of Hull)

<u>*PhD. Panel:*</u> Primary Supervisor - Dr. Nina Dethlefs (University of Hull), Co-Supervisor- Dr. Alex Turner (University of Nottingham), Chair - Prof. Yiannis Papadopoulos (University of Hull)

Masters Level - Post Graduate Diploma (PGDip.) in Research Training; September 2018 - January 2021
University of Hull, United Kingdom
Pursued 120 credits at Level 7 (Masters) offered by the Doctoral College as a part of the Postgraduate Training Scheme at the University of Hull designed to equip postgraduate researchers with the relevant skills and training to pursue cutting-edge research.

Bachelor of Technology (B.Tech) in Electronics and Communication Engineering; July 2014- June 2018
Amity University, Noida, India
First Division with Distinction
CGPA: 9.68/10 ***(University Topper & Gold Medallist)***

<u>Professional Development Courses</u>

Oxford Artificial Intelligence Programme; May - August 2020
Saïd Business School, University of Oxford, United Kingdom
Professional Certificate in understanding AI, its potential for businesses, informed opinion of applications, implications and limitations to drive intelligent machines and AI forward in organizational contexts.
Final Grade: 85%

<u>Summer Schools</u>
CIFAR Deep Learning + Reinforcement Learning (DLRL) Summer School; July 2021
Canadian Institute For Advanced Research (CIFAR), Amii, Mila and the Vector Institute. Canada
Participated in the prestigious DLRL Summer School, which brings together graduate students, post-docs and professionals to cover the foundational research, new developments, and real-world applications of deep learning and reinforcement learning.

Oxford Machine Learning Summer School (OxML); August 2020
Saïd Business School, University of Oxford, United Kingdom and Canadian Institute For Advanced Research (CIFAR)
Participated in the highly selective (Acceptance Rate ~ 11%) OxML Summer School, with a special focus on medicine and interactions with world-renowned researchers and lecturers in ML (and biomedicine). The school provided an unique opportunity to learn about past, present and future of ML research in healthcare (from EHR, imaging, and genetics to wearables, drug discovery and more).

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LIST OF PUBLICATIONS
Impact Factors/CORE ranking as on date of publication.

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JOURNAL ARTICLES

⇨ **Chatterjee, J.,** Dethlefs, N., "Automated Question-Answering for Interactive Decision Support in Operations & Maintenance of Wind Turbines", Expert Systems with Applications, Elsevier (under revision).
⇨ **Chatterjee, J.,** Dethlefs, N., "Scientometric review of artificial intelligence for operations & maintenance of wind turbines: The past, present and future", Renewable and Sustainable Energy Reviews, Elsevier, 144:1-31, 2021. **Impact Factor: 12.110 (World's No. 1 Journal in Sustainable Energy and No. 4 in Engineering & Computer Science as per Google Scholar)**
⇨ **Chatterjee, J.,** Dethlefs, N., "Temporal Causal Inference in Wind Turbine SCADA Data Using Deep Learning for Explainable AI", IOP Journal of Physics: Conf. Series, September 2020.
⇨ **Chatterjee, J.,** Dethlefs, N. "Deep learning with knowledge transfer for explainable anomaly prediction in wind turbines", Wind Energy, Wiley, April 2020; 23: 1693– 1710. **Impact Factor: 3.125**

PREPRINTS

⇨ **Chatterjee, J.,** Dethlefs, N., "XAI4Wind: A Multimodal Knowledge Graph Database for Explainable Decision Support in Operations & Maintenance of Wind Turbines", arXiv Preprint.

CONFERENCE/WORKSHOP PAPERS
(*Talk Delivered , ^Poster Presented)

⇨ **Chatterjee, J.,** "Data-Driven Explainable Decision Support for Operations & Maintenance of Wind Turbines" (Working Paper)

⇨ **Chatterjee, J.,** Dethlefs, N., "Deep Reinforcement Learning for Maintenance Planning of Offshore Vessel Transfer", 4th International Conference on Renewable Energies Offshore (RENEW), Lisbon, Portugal, October 2020.* (Published as a book chapter in Developments in Renewable Energies Offshore, CRC Press, Taylor & Francis).

⇨ Sharma, M., Sehgal, J., **Chatterjee, J.,** Mehra, A., "The Promise of Deep Learning for Indian Roads: A Comparative Evaluation of Architectures", International Conference on Machine Intelligence and Smart Systems (MISS), Published as a Book Chapter in "Springer Proceedings on Algorithms for Intelligent Systems", Gwalior, India, September 2020.

⇨ **Chatterjee, J.,** "Explainable AI for Intelligent Decision Support in Operations & Maintenance of Wind Turbines", Proceedings of the European Conference on Artificial Intelligence (ECAI)'s Doctoral Consortium, Santiago, Spain, August 2020.* **CORE RANKING: A**

⇨ **Chatterjee, J.,** Dethlefs, N., "The Promise of Causal Reasoning in Reliable Decision Support for Wind Turbines", 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) at Fragile Earth: Data Science for a Sustainable Planet Workshop (FEED Workshop), San Diego, California, USA, August 2020.* **CORE RANKING: A***

⇨ **Chatterjee, J.,** Dethlefs, N., "A Dual Transformer Model for Intelligent Decision Support for Maintenance of Wind Turbines", IEEE International Joint Conference on Neural Networks (IJCNN), Glasgow, UK, July 2020.* **CORE RANKING: A and part of WCCI (World's Largest Technical Event in Computational Intelligence)**

⇨ Sehgal, J., Sharma., M, **Chatterjee, J.,** Mehra, A., "Comparative Study of Deep Learning Models for Vehicle Detection in an Unconstrained Road Scenario", IEEE International Conference on Communication and Signal Processing (ICCSP), Chennai, India, July 2020.

⇨ **Chatterjee, J.,** Dethlefs, N., "Natural Language Generation for Operations and Maintenance in Wind Turbines", 33rd International Conference on Neural Information Processing Systems (NeurIPS) at Tackling Climate Change with Machine Learning Workshop, Vancouver, Canada, December 2019.^ **CORE RANKING: A***

⇨ **Chatterjee, J.,** Dethlefs, N., "Transparent Deep Learning and Transductive Transfer Learning: A New Dimension for Wind Energy Research", WindEurope Offshore 2019, Copenhagen, Denmark, November 2019.^ **Largest Offshore Wind Conference in Europe**

⇨ **Chatterjee, J.**, Saxena, A., Gupta, V., Vyas, G. and Mehra, A., "A Robust Automatic Algorithm for Statistical Analysis and Classification of Lung Auscultations", 6th IEEE International Conference on Signal Processing and Integrated Networks (SPIN), Noida, India, March 2019.*

⇨ **Chatterjee, J.** and Dethlefs, N., "A Deep Learning Approach Towards Prediction of Faults in Wind Turbines", Extended Abstract in Northern Lights Deep Learning Workshop (NLDL), Tromso, Norway, January 2019.*

⇨ **Chatterjee, J.**, Mukesh, V., Hsu, HH., Vyas, G., and Liu, Z., "Speech Emotion Recognition Using Cross-Correlation and Acoustic Features", 3rd IEEE Cyber Science and Technology Congress, Athens, Greece, August 2018.

⇨ **Chatterjee, J.**, Thakur, A. and Mukesh, V., "A Novel Approach Towards Identification Of Alcohol And Drug Induced People", 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT), Bengaluru, India, May 2018.*

⇨ **Chatterjee, J.,** Saxena, A., Mehra, A., Vyas, G., and Mukesh, V., "Verification and Debugging of LC-3 Test Bench Environment using System Verilog", 2nd IEEE International Conference on Electronics, Communication and Aerospace Technology (ICECA), Coimbatore, India, March 2018. *

⇨ **Chatterjee, J.**, Saxena, A., Vyas, G. and Mehra, A., "A Computer Vision Approach for Detection of Parkinson Disease using Brain CT Images", 2nd IEEE International Conference on Computing Methodologies and Communication (ICCMC), Tamil Nadu, India, February 2018. *

⇨ **Chatterjee, J.**, Saxena, A., Vyas, G., and Mehra, A., "An Efficient Real-Time Approach For Detection of Parkinson's Disease", 17th International Conference on Intelligent Systems Design and Applications (ISDA), Organized by Machine Intelligence Research Labs, USA and Published in "Springer Proceedings on Advances in Intelligent Systems and Computing", Delhi, India, December 2017. *

⇨ **Chatterjee, J.**, "Modelling of a GaAs based Infrared LED with high efficiency and minimal computation time", IEEE International Conference on Emerging Trends & Innovation in ICT (ICEI), Pune, India, May 2017. *

⇨ **Chatterjee, J.**, Saxena, A., Vyas, G., and Hsu, HH. "A Novel Approach towards identification of in-flight situation based on Air Traffic Control Conversations", 4th IEEE International Conference on Signal Processing and Integrated Networks (SPIN), Noida, India, February 2017. *

⇨ **Chatterjee, J.**, Saxena, A. and Vyas, G., "An automatic and robust system for identification of problematic call Centre conversations", IEEE International Conference on Microelectronics and Telecommunication Engineering (ICMETE), Ghaziabad, India, September 2016. *

⇨ Chaabra, P., Vyas, G., **Chatterjee, J.** and Voss, SH., "An Automatic system for recognition and assessment of anger using Adaptive Boost", IEEE International Conference on Microelectronics and Telecommunication Engineering (ICMETE), Ghaziabad, India, September 2016. *

ABSTRACTS

⇨ **Chatterjee, J.** and Dethlefs, N., "Transparency, Interpretability and Data Availability: Key Challenges for Tackling Climate Change with AI", Workshop on Data Science in Climate and Climate Impact Research, ETH Zurich, Switzerland, August 2020.*

NEWS ARTICLES, BLOGS AND OTHER PUBLICATIONS
⇨ **Chatterjee, J.**, Dethlefs, N., " Developing countries are being left behind in the AI race – and that's a problem for all of us", The Conversation, April 2022. Available at: https://theconversation.com/developing-countries-are-being-left-behind-in-the-ai-race-and-thats-a-problem-for-all-of-us-180218

⇨ **Chatterjee, J.**, "Pitch of my PhD (Explainable AI for O&M of Wind Turbines)", Nudge Global Impact Challenge Promotional Video, The Netherlands, May 2021. Available at: https://www.youtube.com/watch?v=xKX_vtGnqNg
⇨ **Chatterjee, J.**, "Explainable AI – An Indispensable Tool for Affordable and Clean Energy", The Good AI, Paris, France, February 2021. Available at: https://thegoodai.co/2021/02/17/explainable-ai-an-indispensable-tool-for-affordable-and-clean-energy/
⇨ **Chatterjee, J.**, " The Blessings of AI in Making Renewable Energy Sources More Reliable", The Good AI, Paris, France, November 2020. Available at: https://thegoodai.co/2020/10/29/the-blessings-of-ai-in-making-renewable-energy-sources-more-reliable/
⇨ **Chatterjee, J.**, "Utilising Google Colab to Perform Text-to-Speech Conversion", Medium, November 2020. Available at: https://joyjitece.medium.com/utilising-google-colab-to-perform-text-to-speech-conversion-e9964f2e6194
⇨ **Chatterjee, J.**, "Tensorflow for Complete Beginners: Getting Started with Tensors", Towards Data Science, November 2020. Available at: https://towardsdatascience.com/tensorflow-for-complete-begineers-getting-started-with-tensors-780f846f007
⇨ **Chatterjee, J.**, "AI beyond Accuracy: Transparency and Scalability", Towards Data Science, May 2020. Available at: https://towardsdatascience.com/ai-beyond-accuracy-transparency-and-scalability-d44b9f70f7d8
⇨ **Chatterjee, J.**, "Consumer Preferences for Buying Smartphones in India", Medium, January 2020. Available at: https://joyjitece.medium.com/consumer-preferences-for-buying-smartphones-in-india-2427e394b394
⇨ **Chatterjee, J.**, "A Very Brief — Introduction to Deep Learning", Medium, December 2019. Available at: https://joyjitece.medium.com/a-beginners-guide-to-deep-learning-d5746c816ea8
⇨ **Chatterjee, J.**, "Getting Started with Machine Learning- An Introduction with Python", Medium, December 2019. Available at: https://joyjitece.medium.com/getting-started-with-machine-learning-an-introduction-with-python-1a3513ab5d26

BOOKS (NON-TECHNICAL)

⇨ **Chatterjee, J.**, "Thoughts of a Young Man", Educreation Publishing, Delhi, India (ISBN: 9781545707456, 1545707456), September 2017. Preview at:
https://www.google.co.uk/books/edition/Thoughts_of_a_Young_Man/Y68yDwAAQBAJ?hl=en&gbpv=0

PATENTS
⇨ Thakur, A., Aggarwal, P. and **Chatterjee, J.** (2018), "Automatic cooling system-based rabbit hutch", Complete specifications filed with the Indian Patent Office (Application Number 201811028105).
⇨ **Chatterjee, J.** and Thakur, A. (2018), "An intelligent emergency trigger bracelet for alcohol and drug induced people", Complete specifications filed with the Indian Patent Office (Application Number 201811002051).
⇨ **Chatterjee, J.** (2017), "User friendly HelPen for assisting visually challenged", Complete specifications filed with the Indian Patent Office (Application Number 201711011221).

TALKS / PRESENTATIONS DELIVERED

⇨ Delivered a talk on "Unlocking the Potential of Artificial Intelligence in Driving Digital Transformation at Reckitt" during the IT Learning Session in January 2022 at Reckitt, United Kingdom.
⇨ Presented a poster on "Explainable AI for Operations & Maintenance of Wind Turbines" at the Deep Learning-Reinforcement Learning Summer School (DLRL) organized by the leading Canadian research institutions in AI - CIFAR, Amii, Mila and the Vector Institute in July 2021.
⇨ Delivered a talk on "Explainable AI and its real-world applications" as part of a panel discussion on "Disruptive Technologies (AI, Robotics, IoT, 5G): Role in Education, Research & Future Employment", during the Alumni Meet organised by Dept. of Electronics and Communication Engineering, Amity University, Noida, India in March 2021.

- Delivered a talk on "Transparency, Interpretability and Data Availability: Key Challenges for Tackling Climate Change with AI" at the ETH Zurich, Switzerland Workshop on Data Science in Climate and Climate Impact Research in August 2020.
- Delivered a talk on "Transparent, Accurate and Scalable AI for Intelligent Decision Support in O&M of Wind Turbines" at the Carnegie Mellon University (CMU) Symposium on AI and Social Good, Pittsburgh, Pennsylvania in April 2020. **(Prestigious Symposium on addressing challenging societal problems through AI)**
- Delivered a talk on "Autonomous Prediction and Scheduling of Operations & Maintenance for Offshore Wind Farms" at the Postgraduate Research Seminar, Dept. of Computer Science & Technology, University of Hull, UK in February 2020.

TECHNICAL SKILLS

- **Programming:** Python (Proficient), MATLAB (Proficient), C and C++ (Intermediate), R (Basic), Java SE/Core Java (Basic).
- **Data Science & AI Frameworks in Python:** TensorFlow (Proficient), Keras (Proficient), PyTorch (Basic), Scikit-learn (Proficient), Pandas (Proficient), Matplotlib (Proficient), Seaborn (Intermediate), Numpy (Intermediate).
- **Artificial Intelligence Domain Knowledge:** Machine Learning and Deep Learning (Proficient), Regression and Classification algorithms (Proficient), Natural Language Processing (Intermediate), Natural Language generation (Proficient), Neural Machine Translation (Intermediate), Transfer Learning (Proficient), Few Shot Learning (Basic), Data-to-text generation (Intermediate), Supervised Machine Learning (Proficient), Unsupervised Machine Learning (Basic), Causal Inference (Proficient).
- **Machine Learning Models & Techniques:** Decision Trees (Proficient), Random Forests (Proficient), Linear and Logistic Regression (Proficient), Naïve Bayes Classifier (Intermediate), Gradient Boosted Learners like XGBoost (Proficient), Support Vector Machine (Proficient), k-Nearest Neighbors (Intermediate), Autoencoders (Basic).
- **Deep Learning Models & Techniques:** Artificial Neural Networks (Proficient), Recurrent Neural Networks (Proficient), Convolutional Neural Networks (Intermediate), Attention-based learners (Proficient), Sequence to Sequence Models (Proficient), Transformers (Proficient), Dilated networks (Intermediate), Graph Neural Networks (Basic), Large-Scale Language Models like GPT-2, BERT etc. (Intermediate).
- **Data Analytics:** Information Extraction (Proficient), Knowledge Representation (Proficient), Knowledge Engineering (Proficient).
- **Data Preprocessing:** Oversampling Techniques like SMOTE (Proficient), Encoding Techniques (Proficient), Imputation Techniques (Proficient), Outlier Detection Algorithms (Intermediate), Feature Scaling and Normalisation (Proficient).
- **Natural Language Understanding and Analytics:** Paraphrase Generation (Proficient), Text Summarisation (Intermediate), Named Entity Recognition (Basic), Semantic Labelling (Intermediate), Topic Identification (Intermediate), Clustering (Basic), Topic Modelling (Proficient).
- **Knowledge Graphs and Ontology:** Graph Database Development in Neo4j (Proficient), Graph Query Language – Cypher (Proficient), Graph Data Analytics (Intermediate).
- **AI Good Practices:** Bias Mitigation (Proficient), Fairness and Accountability (Proficient), Explainable AI (Proficient), Privacy and Security (Intermediate), Reliability and Safety (Intermediate).
- **Software Engineering Practices:** Handling Large-Scale Software Projects (Proficient), Design (Proficient), Implementation (Proficient), Testing (Intermediate).
- **Documentation Languages/Platforms:** LaTex (Proficient).
- **Web Development:** HTML and CSS (Intermediate).
- **Application Development and Deployment:** High Performance Computing (Intermediate), Docker (Basic).
- **Control and Automation:** Control Systems and Digital Electronics.
- **Office Suite:** MS Office (Proficient), iWork MacOS Suite (Proficient).

SELECTED CERTIFICATIONS AND PERSONAL DEVELOPMENT ACTIVITIES

Professional Certifications
- Certificate for successful completion of a CMI Level 5 study course in Management & Leadership at Ashorne Hill Management College, during the KTP Module 1 & 2 organised by Innovate UK in March 2022.
- Certified as a Professional Scrum Master (PSM-1) by Scrum.org in April 2021.

Certifications at Workplace (Reckitt, UK)
- Completed "Cyber Security" Module in February 2022.
- Completed "Data Privacy" Module in February 2022.
- Completed "Safety of Product" Module in February 2022
- Completed "Anti Bribery and Corruption" Module in February 2022.
- Completed "Human Rights" Module in February 2022.
- Completed "Staying on the right side of Privacy for IT – GDPR Training" Module in December 2021.
- Completed "Staying on the right side of Privacy – GDPR Training" Module in December 2021.

- Completed "SQRC Compliance" Module in November 2021.
- Completed "Speak Up Compliance" Module in November 2021.
- Completed "IT Code of Conduct" Module in November 2021.
- Completed "RB IT Ways of Working" Module in October 2021.
- Completed "Hull R&D Covid Induction" Module in October 2021.

Certifications at Workplace (University of Hull, UK)

- Completed "Recruitment and Selection" Module in December 2021.
- Completed "Managing Diversity" Module in December 2021.
- Completed "Health and Safety Training" in October 2021.
- Completed "Diversity in Learning and Teaching" Module in October 2021.
- Completed "Fire Safety" Training in October 2021.
- Completed "Central Induction" Training in October 2021.

Personal Development Activities

- Completed Training Module 2 for KTP Associates pertaining to acquiring knowledge and skills, including practical exposure to apply accounting and finance techniques for optimizing business profits and managing company assets and liabilities – towards learning to develop vital skills for project managers in a corporate environment. The training was fully funded and organised by Innovate UK in February 2022.

- Underwent "Introduction to Laboratory Information Management System (LIMS) Data Structure" Training with the R&D Systems Team Leader at Reckitt in December 2021.
- Underwent "Stability Induction" Training with the Stability Coordinator (R&D) at Reckitt in December 2021.
- Completed Training Module 1 for KTP Associates pertaining to enhancing and strengthening Management Skills and Leadership, towards driving effective change and developing strategies to communicate, influence and engage stakeholders in the corporate environment. The training was fully funded and organised by Innovate UK at Ashorne Hill Management College, Leamington Spa, UK in November 2021.

CPD Certifications

- Certified as a "Savvy Fellow" as a part of the "Savvy Fellowship Program - a virtual program for aspiring and early-stage entrepreneurs" in April 2021.
- Certificate in "Quick Start to Wolfram Tech" through Wolfram U in April 2021.
- Certificate in "Your Guide to the Pharmaceutical Industry" through Udemy in April 2021.
- Certificate in "Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning" from deeplearning.ai through Coursera in February 2021.
- Passed LinkedIn Skill Assessments and received skill badges for Python, Machine Learning, HTML, Microsoft Word.
- Certificate in "Docker for Data Scientists" from LinkedIn Learning in July 2020.
- Certificate in "Introduction to Neo4j" from Neo4j GraphAcademy in May 2020.
- Certificate in "The Digital Teacher" from University of Hull, UK in May 2020.
- Certified Peer Reviewer from Publons Academy (Web of Science) in February 2020.
- Certificate in "The Digital Researcher" from University of Hull, UK in June 2019.
- Certificate in "Jisc discovery tool" from Jisc in June 2019.
- Certificate in "Passport to University Teaching" from University of Hull, UK in March 2019.
- Certificate in "Open Researcher" from the University of Hull, UK in October 2018.
- Certificate in "MATLAB Onramp" from MathWorks in September 2018.
- Certificate in "Programming Foundations with JavaScript, HTML and CSS" (with Honors) from Duke University, USA through Coursera in March 2018.
- Certificate in "Learning MATLAB" from LinkedIn Learning in February 2018.
- Certificate in "Programming for Everybody (Getting Started with Python)" from University of Michigan, USA through Coursera in August 2017.
- Certificate in "Verification of Electronic Design and Systems using Systems Verilog" from Mentor Graphics (A Siemens Business) in July 2017.
- Ericsson Professional Certification (EXCEL) in "IP and Telecom Basics" during Career Connect Program held at Amity University, Noida, India in February 2017
- Certificate in "Begin Robotics" from the University of Reading, UK through Future Learn in February 2017.
- Certificate in "C++: A General Purpose Language and Library Jump Start" from Microsoft Virtual Academy in October 2016.
- Certificate in "C# Fundamentals for Absolute Beginners" from Microsoft Virtual Academy in June 2016.
- Certificate in "Introduction to Project Management" from University of Adelaide, Australia through edX in April 2016.

- Certificate in "Introduction to Python for Data Science" from Microsoft Corporation through edX in March 2016.
- Certified as "Lean Six Sigma Yellow Belt" from Canopus Business Management Group- (International Association for Six Sigma Certification and Council For Six Sigma Certification Accredited) in December 2015.
- Certificate in "Introduction to Cloud Computing" from Advanced Learning Interactive Systems Online (ALISON) in 2015.
- Certificate in "IT for Business Success" from HP in 2015.
- Certificate in "Customer Relationship Management" from HP in December 2015.

SELECTED CPD EVENTS ATTENDED/PARTICIPATED

- Completed the e-Mentoring programme of the University of Hull for developing confidence and awareness in transitioning from student to professional workplaces. Interacted with alumnus of the university in IT industry based in Japan from November 2020 – May 2021.
- Participated in the 3rd ASML SW Masterclass: Beyond Accuracy: Fairness in Machine Learning, with a talk delivered from IBM Netherlands in January 2021.
- Participated as an invited PhD. Student in the ASML PhD. Master Class (amongst approx. 70 final year PhDs. From European Universities to be selected) after a competitive selection process in November 2020 .
- Participated in the Meeting with an EurAI Fellow at the European Conference on Artificial Intelligence (ECAI) in September 2021.
- Participated in R&D discussion meeting with Japanese companies Chubu Electric and Jera Power at the Aura Innovation Centre, Hessle, United Kingdom in December 2019.
- Participated in the "Power Available Hackathon" organized by Offshore Renewable Energy Catapult (ORE Catapult) and Scottish Power Renewables at the Glasgow Science Centre, Glasgow in October 2019, representing the University of Hull in a team of 2.
- Attended the "windPRO 1 day course" organized by EMD windPRO held at the University of Hull, UK in March 2019.
- Participated in the "GPU Programming using CUDA" Workshop organized at University of Hull in January 2019.
- Participated in the "Deep Learning Winter School" organized at University of Hull, UK in January 2019.
- Participated in the "Writing Critically" Webinar organized by the Library Skills Team, University of Hull, UK in October 2018.
- Participated in the "Being an Open Researcher" Online Course offered by the Library Skills Team, University of Hull, UK in October 2018.
- Attended the Ericsson Professional Training Program in IP and Telecom Basics at Amity University, Noida, India in February 2017.

PROGRAM COMMITTEES SERVED/REVIEW ACTIVITIES
*Impact Factors/CORE ranking as on date of first reviewing activity.

JOURNALS

- Reviewer for the Applied Artificial Intelligence Journal, Taylor & Francis (Impact Factor: 1.580).
- Reviewer for the Renewable and Sustainable Energy Reviews Journal, Elsevier (Impact Factor: 14.982).
- Reviewer for the Journal of Hydrometeorology, American Meteorological Society (Impact Factor: 3.891).
- Reviewer for the Artificial Intelligence Review Journal, Springer (Impact Factor: 5.747).
- Reviewer for the Energy and AI Journal, Elsevier.
- Reviewer for the Technology | Architecture + Design Journal, Taylor & Francis.
- Reviewer for Energies (Impact Factor: 3.004).
- Reviewer for Journal of Marine Science (Impact Factor: 2.458).
- Reviewer for the Computer Modeling in Engineering & Sciences Journal, Tech Science Press.
- Reviewer for the Annals of Biomedical Engineering Journal, Springer Nature- Official Journal of the Biomedical Engineering Society (Impact Factor: 3.607).
- Reviewer for the PeerJ Computer Science Journal (Impact Factor: 2.34).

CONFERENCES/WORKSHOPS

- Reviewer for the Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS 2022). **CORE Ranking: A*.**
- Reviewer for the (a) International Joint Conference on Neural Networks (IJCNN) and (b) International Conference on Fuzzy Systems (FUZZ-IEEE), as a part of the the IEEE World Congress on Computational Intelligence (IEEE WCCI 2022) - the largest technical event in the field of computational intelligence. **CORE RANKING: A**

- Reviewer for the 10th International Conference on Learning Representations (ICLR 2022) - Main Conference, Research Track). **CORE RANKING: A***
- Reviewer for the "Tackling Climate Change with Machine Learning" workshop at the International Conference on Neural Information Processing Systems (NeurIPS 2021). **CORE RANKING: A***
- Reviewer for the "Tackling Climate Change with Machine Learning" workshop at the International Conference on Neural Information Processing Systems (NeurIPS 2021). **CORE RANKING: A***
- Program Committee Member and Reviewer for the "Tackling Climate Change with Machine Learning" workshop at the International Conference on Neural Information Processing Systems (NeurIPS 2021). **CORE RANKING: A***
- Reviewer for the 5th International Conference on Computer Science and Application Engineering (CSAE 2021) organised by CSAE Conference in Sanya, China.
- Reviewer for the 8th IEEE International Conference on Signal Processing and Integrated Networks (SPIN 2021) organised by Amity University, Noida, India.
- Program Committee Member and Reviewer for the "Tackling Climate Change with Machine Learning" workshop at the International Conference on Machine Learning (ICML 2021). **CORE RANKING: A***
- Reviewer for the 15th International Conference on Energy Sustainability of The American Society of Mechanical Engineers (ASME ES 2021).
- Program Committee Member and Reviewer for the "Tackling Climate Change with Machine Learning" workshop at the International Conference on Neural Information Processing Systems (NeurIPS 2020). **CORE RANKING: A***
- Program Committee Member and Reviewer for the "Tackling Climate Change with Machine Learning" workshop at the International Conference on Learning Representations (ICLR 2020). **CORE RANKING: A***
- Conference Paper Reviewer for the 31st European Conference on Information Systems (ECIS 2019) organized by Stockholm University, Sweden.

PROFESSIONAL MEMBERSHIPS

- **Member:** IET UK (MIET), IEEE USA (MIEEE), Machine Intelligence Labs (USA), Chartered Engineer (CEng) and Associate Member (AMIE) - Institution of Engineers (India).
- **Associate Member:** The British Computer Society (AMBCS).
- Served as an Executive Committee Member of the Multimedia Communications Technical Professional Network of IET UK from 2016-2019.
- **Junior Member**: Isaac Newton Institute for Mathematical Sciences, Cambridge, UK.
- **Student Member:** United Nations Association (UNA) - UK, The Society for the Study of Artificial Intelligence and Simulation of Behavior (AISB), UK.
- **Life Member:** Indian Science Congress Association, Govt. of India.

OTHER PROFESSIONAL PROFILES/ACTIVITIES

- **Publons Profile:** https://publons.com/researcher/1484067/joyjit-chatterjee/
- **ORCID Profile:** https://orcid.org/0000-0003-2672-3832
- **ResearchGate Profile:** https://www.researchgate.net/profile/Joyjit-Chatterjee
- **GitHub Profile:** https://github.com/joyjitchatterjee
- **Medium Profile:** https://joyjitece.medium.com

EXTRAMURAL ENGAGEMENTS

- Organizer of the special event (Social) "Facilitating a smoother transition to Renewable Energy with AI (AI4Renewables) at the 10th International Conference on Learning Representations (ICLR 2022) – **CORE RANK: A***. Role involved leading the event over 2 days in April 2022 - featuring a panel discussion with a set of experts from the AI and renewables sector, branching across academia and the industry (first day) and a socializing community-building event (second day).
- Committee Member in IEEE UK & Ireland Section's Diversity, Equality and Inclusion (DEI) Group.
- Voluntary academic mentor/guide for 3-4 undergraduate students in Electronics and Communication Engineering pursuing their final year dissertations (specializing in Artificial Intelligence for real-world applications) at Amity University, Noida, India. Pursuing this mentoring activity with Prof. (Dr.) Anu Mehra at Amity University as the main supervisor for these students.
- Regular contributor to Medium blogs and Towards Data Science (http://joyjitece.medium.com) in the area of Machine Learning/Deep Learning with highly viewed and applauded articles in this domain.

- Contributor at The Good AI (http://thegoodai.co), the first one-stop online media organisation (based in France with a global outreach) providing a one-stop platform towards using AI responsibly within companies, governments and public sectors.
- Student Organizer of 5th IEEE International Conference on Signal Processing and Integrated Networks (SPIN 2018) held in February 2018.
- Author of the Book "Thoughts of A Young Man"- A Collection of Short Poems, Random Thoughts and Inspirational Quotes published by Educreation Publishing, Delhi, India in September 2017.
- Campus Ambassador for the Entrepreneurship Cell, Indian Institute of Technology (IIT) Kanpur, India from 2017-2018.
- Volunteered in various Social and Human Values Events organized at Amity University, Noida, India from 2014-2018.

SCHOLARSHIPS AND FUNDS AWARDED

- Awarded full funding (approx. 1,000 Euros including travel and accommodation) from the EU COST Action Research Network towards participation in the Language In The Human-Machine Era (LITHME) Training School in Ávila, Spain in October 2021.
- Awarded full funding from the Doctoral College, University of Hull, UK for participation in the virtual CIFAR Deep Learning-Reinforcement Learning Summer School (DLRL) in July 2021.
- Awarded full funding (PhD. presenter award) from AI for Good Foundation at the ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)'s Fragile Earth: Data Science for a Sustainable Planet Workshop (FEED Workshop, San Diego, California, USA in August 2020.
- Awarded a scholarship of 4,500 Euros for participation in the Nudge Global Impact Challenge 2020 an 8-month online personality development programme by Nudge Netherlands and its partner sponsors.
- Awarded early career researcher partial grant towards registration for the International Joint Conference on Neural Networks (IJCNN), July 2020, Glasgow, UK by IEEE Computational Intelligence Society.
- Awarded travel grant of 1,000 USD sponsored by Microsoft Research and Deep Mind for presenting research at the "Tackling Climate Change with Machine Learning" workshop at 33rd International Conference on Neural Information Processing Systems (NeurIPS 2019) in Vancouver, Canada.
- Funding of 150 GBP from Aura Innovation Centre, UK to present research at WindEurope Offshore, Denmark in November 2019.
- Funding from University of Hull, UK of 400 GBP to participate in Power Available Hackathon organized by ORE Catapult and Scottish Power Renewables in Glasgow, UK in November 2019.
- Funding from University of Hull, UK of 1,300 GBP to present research at Northern Lights Deep Learning Workshop (NLDL), Norway in January 2019.
- Fully funded PhD. Scholarship totaling 48,000 GBP in Computer Science at University of Hull, United Kingdom (2018-2021) for the project "Autonomous Prediction and Scheduling of Operations and Maintenance for Offshore Wind Farms", directly after undergrad in 2018.
- Awarded scholarship of 1,800 USD by Ministry of Education, Taiwan for pursuing research at Tamkang University, Taiwan as a part of the TEEP@India Program from January-March 2018.
- Studied B. Tech Electronics and Communication Engineering on Merit Scholarship (6000 GBP) for the entire duration of course (2014-2018) at Amity University, Noida, India.

PRESS/MEDIA EXPOSURE

- Article on the topic "Developing countries are being left behind in the AI race – and that's a problem for all of us" (**Chatterjee J.,** Dethlefs, N.) originally published in The Conversation, April 2022 was re-published by hundreds of newspapers and media platforms across the globe. Some prominent venues wherein the article was covered include – Asia Times (Hong Kong), Leicester NewsToday (UK), Economic Times (India), Irish Tech News (Ireland), Pakistan & Gulf Economist (Asia and Middle East), Bristol NewsToday (UK), Sheffield NewsToday (UK), Hull NewsToday (UK), Kathmandu Post (Nepal), Yahoo News (USA), Pehal News (India), Udaya Vani (India) etc. The article was also shared by influencers widely on social media platforms like Twitter.
- News coverage on my research accomplishments at the University of Hull, UK, and past career trajectory in the Times of India – World's largest selling English-language daily's "Education Times" section (12 July 2021). Also covered on the internet at: https://www.educationtimes.com/article/campus-beat-student-speak/84405705/using-ai-to-tackle-the-climatic-challenges.

ACCOMPLISHMENTS

- Selected as reviewer for the 10th International Conference on Learning Representations (ICLR 2022) - Main Conference, Research Track) **CORE RANKING: A*** based on the ICLR 2022 Reviewer Mentorship Program, with select few excellent reviewers (based on feedback from an experienced mentor) being made permanent reviewers in the research track at ICLR.

- Selected and invited to the Language In The Human-Machine Era (LITHME) Training School in the domain of computational linguistics in Ávila, Spain (October 2021) with full funding from the EU COST Action Research Network (amongst 53 researchers awarded full-funding from across the globe).
- Selected for the prestigious Deep Learning-Reinforcement Learning Summer School (DLRL) organized by the leading Canadian research institutions in AI - CIFAR, Amii, Mila and the Vector Institute in July 2021 in a competitive selection process from amongst thousands of applications.
- Received Letter of Appreciation from College of Engineering, Tamkang University, Taiwan for doing outstanding Research work at TKU during January-March 2018.

ACCOLADES

- Made it to the prestigious Forbes 30 Under 30 Europe list (Manufacturing and Industry) in 2022 for impactful work on developing AI products that can help bolster manufacturing and energy processes (https://www.forbes.com/profile/joyjit-chatterjee/?sh=623f7ed91ef8).
- Honored with an accolade of "Top-Cited Author" by Wiley's Wind Energy journal in March 2022 for authoring high-quality papers which generated immediate positive impact in the research community.
- Honored with the Green Talents Award by the German Federal Ministry of Education and Research (BMBF) during the International Forum for High Potentials in Sustainable Development in October 2021 – amongst 25 outstanding scientists selected from across the world. This award was bestowed for my PhD. research conducted at the University of Hull, UK – and its high-potential for facilitating sustainable development. Besides the honor, the award includes – a fully funded research stay in Germany, expert meetings with leading German scientists and researchers.
- Honored with the "Alumni Achiever Award for Outstanding Contribution in Education" by Amity University, Noida, India in March 2021.
- Received the Hull Employability Award for Postgraduate Researchers from the University of Hull, UK as an endorsement of excellent employability skills in May 2019.
- Won the competition PGR Postgraduate Research Experience Survey (PRES) challenge organized by the Graduate School, University of Hull, UK in May 2019.
- Honored with the Young Researcher Award by IEEE UK & Ireland Section in April 2019.
- Awarded Shri Baljit Shastri Award for Best in Human and Traditional Values, the most coveted award of Amity University, Noida, India during Concluding Ceremony in May 2018.
- Awarded for Best Summer Training at Amity University, Noida, India during Concluding Ceremony in May 2018.
- Awarded First Prize in the Annual Projects and Posters Technical Competition (APPTeC) at Amity University, Noida, India for research project entitled "An Automated System For Predicting Lung Disorders using Tracheal Breath Count and Statistical Features" in March 2018.
- Awarded for organization and outstanding contribution for the grand success of 5th IEEE International Conference on Signal Processing and Integrated Networks (SPIN 2018) held in February 2018.
- Received Trophy of Appreciation from IET Delhi Local Network during the IET On Campus Regional Fest at Amity University, Noida, India for contribution to the events as Technical Head from 2015-2017.

REFERENCES: Available on request