(+91) 8939109547   Chennai, India   christyjacksonofficial@gmail.com

Christy Jackson Joshua
ASSOCIATE PROFESSOR

Objective

To leverage my expertise in Computer Science and Engineering, backed by a Ph.D., to drive advancements in evolutionary computation, ad hoc networks, and artificial intelligence. Passionate about contributing to the field of autonomous systems.

Education

2013 – 2020
Vellore Institute of Technology, Chennai, India
PhD Computer Science and Engineering
Major: Adhoc Networks and Optimization
Thesis Title: An Evolutionary Optimization Framework for Improving Communication in Vehicular Adhoc Networks

2010 - 2012
Griffith University, Brisbane, Australia
MS Information Technology
Major: Business
Project: Burleigh Bears JRLFC Automation and Communications"

2006 – 2010
Karunya University, Coimbatore, India
BE Computer Science and Engineering
Project: Improvisation in Grid Environment using GridSim

Awards and Honors

July 2012
Griffith Award of Academic Excellence
Awarded to students who maintain a high level of academic achievement based on the successful completion of at least 40CP within the academic year

Sept 2018-23
Research Excellence Awards
Awarded to faculty researchers for continuous research publications in high impact journals

Research experience

2024 - Ongoing
Prashanthi Silks, Chennai
Project Title Development of a Mobile App for Blouse Design and Measurement Selection with 3D Model Integration
Delivered a cross-platform mobile application and a robust backend system within the specified timeline, ensuring an intuitive and seamless user experience
Successfully integrated 3D avatar visualization, video calling, and chat functionalities, enhancing user engagement and providing a comprehensive shopping experience.

2021 - 2023 **Project Title** Optimizing Garbage Collection Process in Urban Areas Using Machine Learning Models
Fund: VIT Chennai

- Developed machine learning algorithms to predict waste container fill levels, optimizing collection routes and significantly reducing costs.
- Designed a user-friendly system for municipal departments, enhancing data-driven decisions and improving waste management efficiency

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Teaching experience

2022 – 2024   **Vellore Institute of Technology** Chennai
Associate Professor School of Computer Science and Engineering

2020 - 2022   **Vellore Institute of Technology** Chennai
Assistant Professor Senior School of Computer Science and Engineering

2013 - 2020   **Vellore Institute of Technology** Chennai, India
Assistant Professor School of Computer Science and Engineering

Courses Taught
- **Mobile Application Design and Development (Postgraduate Course):** Designed and implemented comprehensive course material covering the full lifecycle of mobile app development, including user interface design, cross platform application, and deployment.
- **Android Programming (Post Graduate Course):** Delivered hands-on training in Android development, enabling students to build and publish functional Android applications using Java
- **Problem Solving and Programming using Python (Undergraduate Course):** Developed problem-solving skills in students through interactive Python programming assignments and projects, focusing on algorithms and data structures.
- **Programming in Java (Undergraduate Course):** Delivered in-depth instruction on Java programming, covering object-oriented principles, preparing students for industry-standard software development practices.
- **Ruby Programming (Undergraduate Course):** Taught the fundamentals of Ruby programming, emphasizing object-oriented design.
- **Robotics Simulation and Modelling (Undergraduate Course)**: Guided students in the creation and testing of robotic models using simulation tools, fostering an understanding of kinematics, dynamics, and control systems.
- **Fundamentals of Autonomous Systems (Undergraduate Course):** Introduced core concepts of autonomous systems, including perception, decision-making, and navigation, with practical labs and projects to apply theoretical knowledge.

Responsibilities
- Course Development and Delivery
- Student Mentorship and Advising
- Innovative Teaching Methods

- Research Integration
- Collaboration and Networking

Skills
- Curriculum Design and Implementation
- Programming Proficiency
- Interactive and Engaging Instruction
- Research and Development
- Mentorship and Student Development

Doctoral students advised

Arpan Singh, "Comprehensive Nano solution for Flower pollination using Machine Learning", 2023 - Ongoing

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Publications

Journal Publications

SCI Indexed Publications

Md, A. Q., Anand, R. V., Mohan, S., Joshua, C. J., Girish, S. S., Devarajan, A., & Iwendi, C. (2023). Data-driven analysis of privacy policies using LexRank and KL summarizer for environmental sustainability. Sustainability, 15(7), 5941. https://doi.org/10.3390/su15075941

Kalidas, A. P., Joshua, C. J., Md, A. Q., Basheer, S., Mohan, S., & Sakri, S. (2023). Deep reinforcement learning for vision-based navigation of UAVs in avoiding stationary and mobile obstacles. Drones, 7(4), 245. https://doi.org/10.3390/drones7040245

Joshua, C. J., Jayachandran, P., Md, A. Q., Sivaraman, A. K., & Tee, K. F. (2023). Clustering, routing, scheduling, and challenges in bio-inspired parameter tuning of vehicular ad hoc networks for environmental sustainability. Sustainability, 15(6), 4767. https://doi.org/10.3390/su15064767

Md, A. Q., Kulkarni, S., Joshua, C. J., Vaichole, T., Mohan, S., & Iwendi, C. (2023). Enhanced preprocessing approach using ensemble machine learning algorithms for detecting liver disease. Biomedicines, 11(2), 581. https://doi.org/10.3390/biomedicines11020581

Ayan, K., Md, A. Q., Joshua, J. C., & Iwendi, C. (2022). Predicting and curing depression using long short term memory and global vector. Computers, Materials & Continua, 74(3). https://www.techscience.com/cmc/v74n3/50911

Sivakumar, V., Kanagachidambaresan, G., Dhilipkumar, V., Arif, M., Joshua, C. J., & Arulkumaran, G. (2022). Energy-efficient Markov-based lifetime enhancement approach for underwater acoustic sensor network. Journal of Sensors, 2022, 3578002. https://www.hindawi.com/journals/js/2022/3578002/

Jackson, C., & Vijayakumar, V. (2021). Reputation based optimization framework for routing in VANETs: A multi-objective firefly algorithm approach. Wireless Networks, 27, 5567–5576. https://doi.org/10.1007/s11276-020-02476-x

Quadir, M. A., Jackson, C. J., Prassanna, J., Sathyarajasekaran, J., Kumar, K., Sabireen, K., Ubarhande, H., & Vijaya Kumar, V. (2020). An efficient algorithm to detect DDoS amplification attacks. Journal of Intelligent & Fuzzy Systems, 39(6), 8565-8572. https://doi.org/10.3233/JIFS-189332

Jackson, C. J., Rekha, D., Vijayakumar, V., & Carvalho, G. H. S. (2020). Optimal broadcast scheduling method for VANETs: An adaptive discrete firefly approach. Journal of Intelligent & Fuzzy Systems, 39(6), 8125-8137. https://doi.org/10.3233/JIFS-189334

Jackson, C. J., Duraisamy, R., & Varadarajan. (2019). A reputation based weighted clustering protocol in VANET: A multi-objective firefly approach. Mobile Networks and Applications, 24, 1199-1209. https://doi.org/10.1007/s11036-018-1167-6

Scopus Journal Publications

Rajarajeswari, S., Prassanna, J., Md, A. Q., Jackson, C. J., Sharma, S., & Rajesh, B. (2022). Skin cancer detection using deep learning. Research Journal of Pharmacy and Technology, 15(10), 4519-4525. https://doi.org/10.52711/0974-360X.2022.00758

Prassanna, J., Anbarasi, L. J., P., R., Jackson, C. J., Rajesh, B., & Manikandan, R. (2022). CNN based framework for intelligent diagnosis of tuberculosis using chest radiographs. Research Journal of Pharmacy and Technology, 15(10), 4529-4532. https://doi.org/10.52711/0974-360X.2022.00760

Jawahar, M., Anbarasi, L. J., Prassanna, J., Jackson, C. J., Manikandan, R., Alzubi, J. A., & Dhanya, D. (2021). Diagnosis of COVID-19 using optimized PCA based local binary pattern features. International Journal of Current Research and Review, 13(11), 37-41.

Ponraj, A. S., Vigneswaran, T., & Jackson, C. J. (2021). Automated sensor data validation and correction with long short-term memory recurring neural network model. Gazi University Journal of Science Part A: Engineering and Innovation, 8(1), 43-57.

Vincent, R., Ranjan, A., Sivaraman, A. K., Rajesh, M., R, G., & Jackson, C. J. (2020). Handwriting synthesis with deep learning. Journal of Critical Reviews, 7(19), 4257-4262. https://doi.org/10.31838/jcr.07.19.499

Md, A. Q., Prassanna, J., Jackson, C. J., Anusooya, G., Premalatha, M., Sathyarajasekaran, K., & Sabireen, H. (2020). Review on DNS amplification attacks towards building an efficient prevention strategy. Journal of Critical Reviews, 7(13), 1654-1662. https://doi.org/10.31838/jcr.07.13.261

Anbarasi, L. J., Prassanna, J., Md, A. Q., Jackson, C. J., Manikandan, R., Rahim, R., & Suseendaran, G. (2020). Visual secret sharing: A review. Journal of Critical Reviews, 7(9), 1436-1441.

Kalimuthu, M., Ponraj, A. S., & Jackson, C. J. (2020). Water management and metering system for smart cities. International Journal of Scientific & Technology Research, 9(4), 2378-2383.

Prassanna, J., Md, A. Q., Jackson, C. J., Prabakaran, R., & Ramanathan, S. (2020). Towards building a neural conversation

chatbot through Seq2Seq model. International Journal of Scientific & Technology Research, 9(3), 2145-2150.

Prassanna, J., Md, A. Q., Jackson, C. J., Prabakaran, R., & Ramanathan, S. (2020). SecrecyProtector: A novel data analytics based credit score management system. International Journal of Scientific & Technology Research, 9(3), 2296-2301.

Jackson, C. J., Rekha, D., Vijayakumar, V., & Prasath, S. V. B. (2019). Broadcast scheduling problem in VANETs: A discrete genetic algorithm approach. International Journal of Recent Technology and Engineering, 7(6s), 556-561.

Jackson, C. J., & Singh, A. (2019). Fire alert system using real-time video processing. International Journal of Innovative Technology and Exploring Engineering, 8(7), 217-222.

Jyothi, K., & Jackson, J. C. (2018). A time-based approach for solving the dynamic path problem in VANETs–An extension of ant colony optimization. Journal of Engineering Science and Technology, 13(3), 813-821.

Jackson, C. J., & Vijayakumar, V. (2018). Taxonomy on evolutionary computation approaches in vehicular ad hoc networks. International Journal of Pure and Applied Mathematics, 120(8), 169-177.

Ponraj, A. S., & Jackson, C. J. (2018). NFC based parking system for smart cities. ARPN Journal of Engineering and Applied Sciences, 13(11), 3758-3764.

Jackson, J. C., & Vijayakumar, V. (2018). A review on congestion control system using APU and D-FPAV in VANET. International Journal of Advanced Intelligence Paradigms, 10(4), 391-400.

Anusooya, G., & Jackson, C. J., & Sathyarajasekaran, K., & Kannan, K. (2017). RFID based smart car parking system. International Journal of Applied Engineering Research, 12(17), 6559-6563.

Jackson, C. J., & Vijayakumar, V. (2015). An insight on reputation based incentive scheme and throughput feedback routing in MANET's. ARPN Journal of Engineering and Applied Sciences, 10(5), 1988-1992.

Conference Papers

Vaishnavi, V. V., Narendra, G. O., Divyashree, S., & Jackson, J. C. (2023). Enhancing online education efficacy: A multifaceted analysis and recommendation system for online courses. In 2023 6th International Conference on Recent Trends in Advance

Computing (ICRTAC) (pp. 403-409). IEEE. https://doi.org/10.1109/ICRTAC59277.2023.10480834

Ishwarya, K., Jackson, J. C., Md, A. Q., Mohan, S., & Iwendi, C. (2023). Lecture Notes in Networks and Systems, 735 LNNS, 569-591. https://doi.org/10.1007/978-3-031-37164-6_42

Prathiksha, C., Joshua, C. J., Md, A. Q., Mohan, S., & Iwendi, C. (2023). Lecture Notes in Networks and Systems, 735 LNNS, 189-216. https://doi.org/10.1007/978-3-031-37164-6_14

Jackson, C. J., Panja, A., & Md, A. Q. (2021). An approach to skin cancer detection using Keras and Tensorflow. Journal of Physics: Conference Series, 1911, 012034. https://doi.org/10.1088/1742-6596/1911/1/012034

Md, A. Q., Prassanna, J., Jackson, C. J., Sabireen, H., & Gupta, G. (2021). Efficient algorithm for CSP selection based on three-level architecture. Artificial Intelligence and Technologies, 806, 515-531.

Jackson, C. J., & Vijayakumar, V. (2021). Stock market analysis and prediction using time series analysis. Materials Today: Proceedings.

Jackson, C. J., Vijayakumar, V., Md, A. Q., & Bharathi, C. (2015). Survey on programming models and environments for cluster, cloud, and grid computing that defends big data. Procedia Computer Science, 50, 517-523. https://doi.org/10.1016/j.procs.2015.04.036

Jackson, C. J., et al. (2022). Opinion mining models for learner feedback on massive open online courses. 2022 International Conference on Electronic Systems and Intelligent Computing (ICESIC), 117-121. https://doi.org/10.1109/ICESIC53714.2022.9783508

Book Chapter	Deshpande, S., Aggarwal, A., Ponraj, A. S., & Jackson, C. (2022). IoT-based smart hand sanitizer dispenser for COVID-19. In T. Kumar, P. Dinesh, & R. S. Rajesh (Eds.), Applications of Internet of Things. CRC Press. https://doi.org/10.1201/9781003240853-22

Patents	2020	Christy Jackson, Rekha D., & Vijayakumar V. (2020). A reputation based weighted clustering protocol in VANET: A Mult objective firefly approach. Indian Patent No. 202041022876. Published on December 6, 2020.

Presentations and invited lectures

2018 - 2024

Training Programme
Software Practices, 4-week faculty induction program, Vellore Institute of Technology
Introduction to Web development, Staff Training Program, Vellore Institute of Technology
Advanced Microsoft Word, Powerpoint, and Excel, Staff Training Program, Vellore Institute of Technology

2024

Workshop
Two days Hands-on Workshop on Data Analysis with Python, Madras Christian College, Chennai, India

Professional training

2024

Oracle Certified Foundations Associate, Java, Oracle Education
Gained foundational knowledge of Java programming. Proficient in object-oriented programming, Java syntax, and core programming concepts such as loops, arrays, and exception handling. Demonstrated ability to write, compile, and run Java programs using various development tools

2016

D-Link Certified Trainer, DCT-Switching
The D-Link Certified Trainer (DCT) - Switching program is a specialized certification designed to equip IT professionals with advanced knowledge and skills in managing and configuring D-Link's switching products.

2013

Oracle Certified Java Professional (OCJP)
OCJP certification demonstrates advanced proficiency in Java programming, encompassing core concepts, application development, and best coding practices. It validates expertise in Java SE, enabling efficient problem-solving and application design

Professional affiliations

2023 - Present

International Association of Engineers - 268739

2022 - Present

Computer Science Teachers Association - 198358017548

2022 - 2023

IEEE - 98144527

Professional service	2014 - Present	**Symposium Co-Organizer** • Web Chair, International Conference on Big Data and Cloud Computing Challenges (ICBCC formerly ISBCC). 2014 – 2018. Vellore Institute of Technology Chennai • Organizing Committee, National Conference on Man Machine Interaction (NCMMI). 2014 – 2016. Vellore Institute of Technology Chennai • Technical Session Committee, Industry Conclave 2021, Vellore Institute of Technology Chennai • Organizing Member, International Conference on Innovative Technology for Sustainable Development (ICITSD) 2021. Vellore Institute of Technology Chennai and University of Technology Sydney • Design Committee, International Virtual Conference on Industry 4.0 (IVC4.0), 2021, Vellore Institute of Technology and Manchester Metropolitan University
	2014 - Present	**Peer-Reviewed Articles for:** Sustainability, MDPI The Journal of Supercomputing, Springer Nature International Journal of Web Engineering and Technology, Inderscience Sensors, MDPI
Languages	English	Intermediate Listener, Novice Speaker, Advanced Reading and Writing
	Tamil	Native Language
Computer skills	Programming	Python, Java, Ruby, HTML, CSS, Javascript
	Applications	Jupyter Notebooks, VSCode, Google Colab, Microsoft Office Tool Suite, Canva, Adobe Photoshop, MATLAB
	Frameworks / Libraries	NumPy, Pandas, Matplotlib, Robotic Operating System (ROS)
References	Dr. Vedhapriyavadhana	Lecturer, University of the west of Scotland, London vedhapriyavadhana.rajamani@uws.ac.uk +44 7721871670
	Dr. Sivakumar V	Associate Professor, Department of Information and Communication Technology, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Karnataka-576104. sivakumar.v@manipal.edu
	Dr. Prassanna J	Professor, School of Computer Science and Engineering, Vellore Institute of Technology Chennai, Tamilnadu 600127 prassanna.j@vit.ac.in