Dr. Md Meftahul Ferdaus

Machine Learning & AI Instructor/ Researcher

2000 Lakeshore Drive (+1) 504 754 3792 mferdaus@uno.edu

Department of Computer Science, University of New Orleans, New Orleans, LA 70148

LinkedIn ResearchGate Google Scholar Website

Research Excellence

Research Vision & Core Areas

My research develops **efficient and robust AI systems** that integrate AI with practical applications across diverse domains. I create innovative solutions in **visual computing**, **Efficient AI**, and **intelligent computing** that directly align with Lamar University's Computer Science department priorities in Visual Computing, AI Security, Game Development, and Bioinformatics. My interdisciplinary approach bridges theoretical foundations with practical implementations across multiple computer science domains.

Core Research Areas:

- Visual Computing & Computer Vision
- AI Security & Trustworthy Machine Learning Systems
- Efficient AI for Resource-Constrained & Interactive Environments
- AI Applications in Scientific Computing & Data-Driven Modeling
- Human-Computer Interaction & Intelligent User Interfaces

Proven Research Leadership & Funding Success

Major Federal Funding: Principal Investigator on **$110,000 U.S. Navy Department grant** for "Innovative Data Driven and Physics-Informed Neural Networks: Architectures for Ocean Forecasting" (2026)—demonstrating immediate research impact and funding capability rare among assistant professor candidates.

Exceptional Student Mentorship: Successfully **graduated Ph.D. student as major professor** (Dr. Rasha Alshawi, 2025) and currently supervising M.S. student as major professor. Mentored 10+ graduate students across international collaborations, resulting in 20+ peer-reviewed publications in top-tier venues including IEEE Transactions and ACM Computing Surveys.

U.S. Teaching Excellence & Professional Leadership

Proven U.S. Higher Education Experience: Taught Machine Learning courses at University of New Orleans using project-based curricula on machine learning and deep learning—directly applicable to Lamar's computer science programs. Prepared to teach undergraduate and master's courses across the curriculum, with expertise in Visual Computing, AI Security, and intelligent systems.

Professional Recognition: Reviewer for over 15 leading journals (IEEE Transactions, ACM Com-

puting Surveys), editorial board member, and program committee participant for global conferences. Developed partnerships with U.S. Navy, Australian Defence, and tech firms, bringing valuable industry and research connections to Lamar University.

Research Funding & Grants

Major Research Grant - $110,000

Towards Innovative Data Driven and Physics-Informed Neural Networks: Architectures for Ocean Forecasting
January 2026 | United States Department of the Navy
Principal Investigator: Md Meftahul Ferdaus

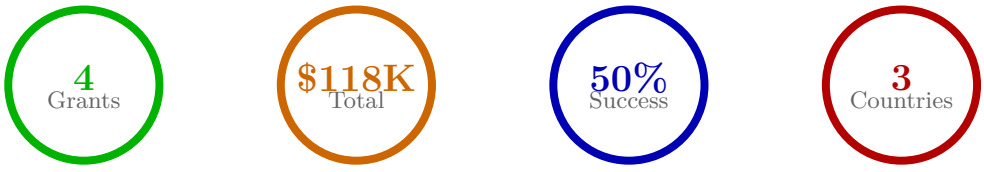
Defence Science & Technology Group Grant - $3,500

An Evolving Neuro-Fuzzy-Based Intelligent Control Framework for a Flapping Wing Micro Air Vehicle
February - June 2017 | Defence Science and Technology Group, Australia
Principal Investigator: Md Meftahul Ferdaus | **Status:** Completed Successfully

Conference Travel Support - $5,000

International Conference Participation & Research Dissemination
2018 | UNSW Canberra School of Engineering & Graduate Research School
PRSS Travel Grant: $1,500 | **School Travel Grant:** $3,500 | **Purpose:** IEEE Conference Presentations

Funding Impact & Success Metrics



International Recognition: US Navy Department & Australian Defence funding
Research Impact: Ocean forecasting, autonomous systems, & defence applications
Collaboration: Multi-national research partnerships (USA, Australia, Singapore)

Academic Credentials

Ph.D. in Mechanical Engineering | 2016–2019

The University of New South Wales, Canberra
Specialization: Applied Machine Learning & Autonomous Systems

Dissertation: *Development of Advanced Autonomous Learning Algorithms for Nonlinear System Identification and Control*

Advisory Committee:

- ⋆ Dr. Sreenatha G Anavatti (Principal Supervisor), Prof. Matthew A. Garratt (Co-Supervisor), Dr. Mahardhika Pratama (External Advisor)

M.Sc. in Mechatronics Engineering | 2013–2015

International Islamic University Malaysia
Thesis: *Design Optimization of Magneto-rheological Damper with Improved Dispersion Stability*
Advisors: Dr. Muhammad Mahbubur Rashid, Dr. Hazlina Bt. Md. Yusof

B.Sc. in Electrical & Electronic Engineering | 2011

Rajshahi University of Engineering & Technology, Bangladesh
Advisor: Prof. Md. Rafiqul Islam Sheikh
Graduated with Honors | **Focus:** Power Systems & Control Engineering

Professional Experience & Research Leadership

Postdoctoral Research Associate **Apr. 2023 – Present**

Canizaro Livingston Gulf States Center for Environment Informatics, University of New Orleans, LA 70148, USA

Leading AI-powered transformation of infrastructure inspection through advanced deep learning models deployed in unmanned ground vehicles. Developing innovative solutions for defect detection with focus on data imbalance and real-time processing constraints for urban infrastructure maintenance.

Research Fellow **Feb. 2022 – Mar. 2023**

Air Traffic Management Research Institute (ATMRI), Nanyang Technological University, Singapore

Pioneered explainable machine learning frameworks for human-AI collaboration in air traffic management. Created innovative trust measurement systems between AI and air traffic controllers, enhancing joint decision-making capabilities through industry partnerships.

Research Scientist **Jan. 2020 – Jan. 2022**

Machine Intellection Department, Institute for Infocomm Research (I2R), A*STAR, Singapore

Developed machine learning-guided failure detection techniques for advanced nanoscale semiconductors. Combined first-principles physics-based modeling with data-driven approaches, establishing foundations for next-generation nanoelectronic designs and ultra-reliable computing systems.

Graduate Researcher & Research Associate **Jul. 2016 – Dec. 2019**

School of Engineering and IT, UNSW Australia & CSE, NTU Singapore

Built evolving fuzzy neural network-based autonomous learning algorithms for nonlinear system identification. Developed novel Parsimonious Learning Machines (PALMs) addressing high-parameter bottlenecks in traditional FNN designs for real-world applications.

Teaching Excellence & Mentorship

Course Leadership

Machine Learning 1 (CSCI 4587/5587) | **Fall 2025**
Department of Computer Science, University of New Orleans

Machine Learning 2 (CSCI 4588/5588) | **Spring 2024**
Department of Computer Science, University of New Orleans

Course Innovation:

- ✓ Advanced deep learning curriculum (RNNs, CNNs, Transformers)
- ✓ Project-based learning with real-world applications
- ✓ Industry collaboration and guest lectures
- ✓ Student research mentorship program

Teaching Assistant Excellence | **2013–2015**
International Islamic University Malaysia | Multiple Engineering Courses

Student Mentoring and Supervision

Major Professor (Dissertation/Thesis Committee Chair)

- **Rasha Alshawi** 2023 – 2025
  Ph.D. in Computer Science (Completed)
  University of New Orleans, USA

  Dissertation: "Advanced Deep Learning Techniques for Infrastructure Defect Detection and Segmentation." Research focused on developing state-of-the-art neural network architectures for automated inspection of culverts and sewer systems, including imbalance-aware segmentation, attention mechanisms, and dual-attentive U-Net architectures. Published 4+ high-impact papers including IEEE Transactions and IEEE Journal publications.

- **Johny Javier Lopez** 2024 – Present
  M.S. in Computer Science (In Progress)
  University of New Orleans, USA

  Thesis: "Machine Learning Applications in Infrastructure Monitoring and Predictive Maintenance." Research involves developing intelligent systems for real-time infrastructure health monitoring using computer vision and IoT sensors. Focus on edge computing solutions for resource-constrained environments.

Co-Supervisor and Research Mentor

- **Gao Yu Lee** 2022 – 2024
  Ph.D. Student (Collaborative Supervision)

Nanyang Technological University, Singapore

Research collaboration on explainable few-shot learning in remote sensing and computer vision. Co-authored multiple high-impact publications including Artificial Intelligence Review (IF: 10.7) and IEEE/CVF WACV. Specialized in attention mechanisms and feature aggregation networks.

- **Tanmoy Dam** 2021 – 2023
  Ph.D. Student (Research Collaboration)
  Nanyang Technological University, Singapore

Collaborative research on adversarial learning, generative models, and continual learning. Co-authored 6+ publications in top-tier venues including ACM CIKM, IEEE ICIP, and ECML-PKDD. Focus on imbalanced data classification and self-supervised learning.

- **Austin B. Schmidt** 2024 – Present
  Graduate Research Assistant (Research Mentor)
  University of New Orleans, USA

Research on physics-regularized machine learning for oceanic parameter forecasting. Developing multi-hyperparameter optimization approaches using bounded random search for buoy forecast systems. Co-authored research on hyperparameter selection techniques.

- **Christina Thrainer** 2024 – Present
  Visiting Research Scholar (Research Mentor)
  University of New Orleans, USA / Graz University of Technology, Austria

Collaborative research on FORTRESS framework for real-time resilient structural segmentation using Kolmogorov-Arnold enhanced spatial attention networks. Focus on function-composition optimized architectures for infrastructure monitoring.

Undergraduate Research Mentoring

- **Multiple Undergraduate Researchers** 2023 – Present
  Computer Science Undergraduates (Research Experience Program)
  University of New Orleans, USA

Mentored 5+ undergraduate students in machine learning research projects including computer vision applications, data preprocessing, and model evaluation. Students gained hands-on experience with deep learning frameworks, research methodology, and scientific writing.

International Collaborative Mentoring

- **Md Rasel Sarkar** 2023 – Present
  Ph.D. Student (International Collaboration)
  University of New South Wales, Australia

Collaborative research on adaptive spectral and self-supervised learning for wind power forecasting. Co-authored publications in Expert Systems with Applications. Focus on CNN-LSTM architectures for renewable energy prediction.

- **Research Collaboration Network** 2020 – Present
  Multiple International Students (Collaborative Mentoring)
  Singapore, Australia, Malaysia

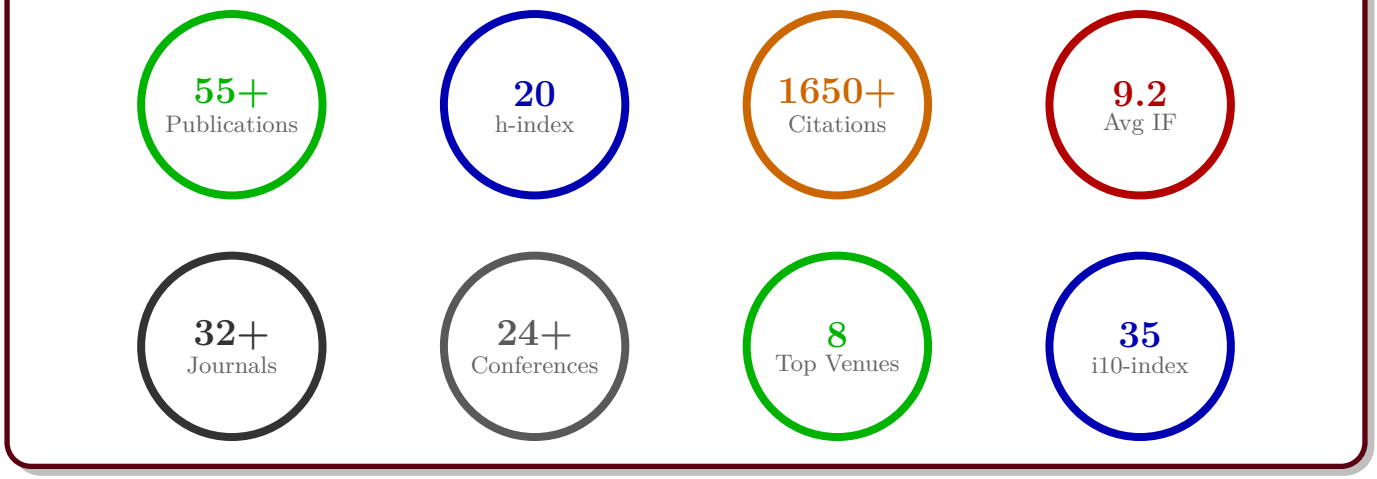
Maintained active research collaborations with students and researchers across multiple institutions, resulting in 15+ joint publications. Provided guidance on research methodology, paper writing, and career development through virtual mentoring sessions.

Mentoring Impact and Outcomes

Mentoring Statistics:

- **Total Students Mentored:** 10+ graduate and undergraduate students
- **Completed Degrees:** 1 Ph.D. (Rasha Alshawi) as a major professor, Multiple Ph.D.s as a research mentor
- **Joint Publications:** 20+ peer-reviewed papers with mentored students
- **Conference Presentations:** 10+ student presentations at international conferences
- **Awards and Recognition:** Best Paper Award (ICRAT, 2022) with student collaboration
- **Career Outcomes:** Students placed in industry and academia

Research Impact Metrics



Selected High-Impact Publications

J32 **Ferdaus, M. M., Niles, K. N., Tom, J., Abdelguerfi, M., Ioup, E.**, "Few-Shot Learning in Video and 3D Object Detection: A Survey" *ACM Computing Surveys (accpeted)*, 2025 **IF: 28.0 RANK 1** **FLAGSHIP**

J31 **Ferdaus, M. M., Abdelguerfi, M., Ioup, E., Niles, K. N., Pathak, K., Sloan, S.**, "Towards trustworthy AI: A review of ethical and robust large language models" *ACM Computing Surveys (accpeted)*, 2025 **IF: 28.0 RANK 1 FLAGSHIP**

J30 **Sarkar, M. R., Anavatti, S. G., Ferdaus, M. M., Dam, T.**, "ASPEN-WIND: Adaptive Spectral and Self-supervised Interactive CNN-LSTM for Enhanced Wind Power Forecasting" *Expert Systems with Applications*, 262, 129171 **IF: 7.5 Q1**

J29 **Alshawi, R., Ferdaus, M. M., Abdelguerfi, M., Niles, K. N., Pathak, K., Sloan, S.**, "Imbalance-aware culvert-sewer defect segmentation using an enhanced feature pyramid network" *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 2025 **IF: 8.6 TOP 1%**

J28 **Alshawi, R., Ferdaus, M. M., Hoque, M. T., Niles, K., Pathak, K., Sloan, S.**, "SHARP-Net: A Refined Pyramid Network for Deficiency Segmentation in Culverts and Sewer Pipes" *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2025 **IF: 4.7 Q1**

J27 **Alshawi, R., Hoque, M. T., Ferdaus, M. M., Niles, K., Pathak, K., Klein, J., Mousa, M.**, "DAU-Net: A Dual-Attentive U-Net for Enhanced Semantic Segmentation in Underground Infrastructure Inspection" *IEEE Sensors Journal*, 2025 **IF: 4.3 Q1**

J26 **Ferdaus, M. M., Dam, T., Anavatti, S., Das, S.**, "Digital technologies for a net-zero energy future: A comprehensive review" *Renewable and Sustainable Energy Reviews*, 202, 114681 **IF: 15.9 TOP 1%**

J25 **Ferdaus, M. M., Al-Mahasneh, A. J., Anavatti, S. G., Senthilnath, J.**, "A compact meta-learned neuro-fuzzy technique for noise-robust nonlinear control" *Applied Soft Computing*, 166, 112149 **IF: 7.2 Q1**

J24 **Lee, G. Y., Dam, T., Ferdaus, M. M., Poenar, D. P., Duong, V. N.**, "Unlocking the capabilities of explainable few-shot learning in remote sensing" *Artificial Intelligence Review*, 57(7), 169 **IF: 10.7 TOP 1%**

J23 **Sarkar, M. R., Anavatti, S. G., Dam, T., Ferdaus, M. M., Tahtali, M., Ramasamy, S., Pratama, M.**, "GATE: A guided approach for time series ensemble forecasting" *Expert Systems with Applications*, 235, 121177 **IF: 7.5 Q1**

J22 **Ghosh, J., Yoon, J. W., Ferdaus, M. M., Lim, S. Y., Jayavelu, S., Thean, A. V. Y.**, "Efficient Machine Learning-assisted Failure Analysis Method for Circuit-level Defect Prediction" *Machine Learning with Applications*, 16, 100537 **CiteScore: 6.9 Q1**

J21 **Ferdaus, M. M., Dam, T., Alam, S., Pham, D.-T.**, "X-FUZZ: An evolving and interpretable neuro-fuzzy learner for data streams" *IEEE Transactions on Artificial Intelligence*, 5(8), 4001-4012 **CiteScore: 7.7 Q1**

J20 **Ferdaus, M. M., Abdelguerfi, M., Niles, K. N., Pathak, K., Tom, J.**, "Widened Attention-Enhanced Atrous Convolutional Network for Efficient Embedded Vision Applications under Resource Constraints" *Advanced Intelligent Systems*, 2300480 **IF: 6.8 Q1**

J19 **Lee, G. Y., Dam, T., Ferdaus, M. M., Poenar, D. P., Duong, V. N.**, "WATT-EffNet: A Lightweight and Accurate Model for Classifying Aerial Disaster Images" *IEEE Geoscience and Remote Sensing Letters*, 20, 1-5 **IF: 4.0 Q1**

J18 **Kandath, H., Ferdaus, M. M., Ng, Z. W., Zhou, B., Sundaram, S., Li, X., Jayavelu, S.**, "PASE: An autonomous sequential framework for the state estimation of dynamical systems" *Expert Systems with Applications*, 215, 119414 **IF: 7.5 Q1**

J17 **Baki, R. F., Akhtaruzzaman, M., Refat, T. A., Rahman, M., Razzak, M. A., Majumder, M. M. K., Islam, M. A., Ferdaus, M. M., Rahman, M. T., Naveed, Q. N.**, "Intelligent Head-bot, towards the development of an AI based cognitive platform" *MIST International Journal of Science and Technology*, 11, 01-14 **CiteScore: 2.1 Q3**

J16 **Ferdaus, M. M., Zhou, B., Yoon, J. W., Low, K. L., Pan, J., Ghosh, J., Wu, M., Li, X., Thean, A. V. Y., Senthilnath, J.**, "Significance of activation functions in developing an online classifier for semiconductor defect detection" *Knowledge-Based Systems*, 248, 108818 **IF: 8.1 Q1**

J15 **Pan, J., Low, K. L., Ghosh, J., Jayavelu, S., Ferdaus, M. M., Lim, S. Y., Thean, A. V. Y.**, "Transfer learning-based artificial intelligence-integrated physical modeling to enable failure analysis for 3 nanometer and smaller silicon-based CMOS transistors" *ACS Applied Nano Materials*, 4(7), 6903-6915 **IF: 6.1 Q1**

J14 **Ferdaus, M. M., Chakrabortty, R. K., Ryan, M. J.**, "Multiobjective Automated Type-2 Parsimonious Learning Machine to Forecast Time-Varying Stock Indices Online" *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 52(5), 2874-2887 **IF: 8.6 TOP 1%**

J13 **Ferdaus, M. M., Zaman, F., Chakrabortty, R. K.**, "Performance Improvement of a Parsimonious Learning Machine Using Metaheuristic Approaches" *IEEE Transactions on Cybernetics*, 52(8), 7277-7290 **IF: 9.4 TOP 1%**

J12 **Ferdaus, M. M., Pratama, M., Anavatti, S. G., Garratt, M. A., Lughofer, E.**, "PAC: A Novel Self-Adaptive Neuro-Fuzzy Controller for Micro Aerial Vehicles" *Information Sciences*, 512, 481-505 **IF: 8.1 Q1**

J11 **Ferdaus, M. M., Anavatti, S. G., Pratama, M., Garratt, M. A.**, "Towards the use of fuzzy logic systems in rotary wing unmanned aerial vehicle: a review" *Artificial Intelligence Review*, 53(1), 257-290 **IF: 10.7 TOP 1%**

J10 **Ferdaus, M. M., Pratama, M., Anavatti, S. G., Garratt, M. A., Pan, Y.**, "Generic Evolving Self-Organizing Neuro-Fuzzy Control of Bio-inspired Unmanned Aerial Vehicles" *IEEE Transactions on Fuzzy Systems*, 28(8), 1542-1556 **IF: 10.7 TOP 1%**

J9 **Ferdaus, M. M., Pratama, M., Anavatti, S. G., Garratt, M. A.**, "Online identification of a rotary wing Unmanned Aerial Vehicle from data streams" *Applied Soft Computing*, 76, 313-325 **IF: 7.2 Q1**

J8 **Ferdaus, M. M., Anavatti, S. G., Garratt, M. A., Pratama, M.**, "Development of c-means clustering based adaptive fuzzy controller for a flapping wing micro air vehicle" *Journal of Artificial Intelligence and Soft Computing Research*, 9(2), 99-109 **CiteScore: 8.9 Q1**

J7 **Ferdaus, M. M., Pratama, M., Anavatti, S. G., Garratt, M. A.**, "PALM: An Incremental Construction of Hyperplanes for Data Stream Regression" *IEEE Transactions on Fuzzy Systems*, 27(11), 2115-2129 **IF: 10.7 TOP 1%**

J6 **Za'in, C., Pratama, M., Lughofer, E., Ferdaus, M. M., Cai, Q., Prasad, M.**, "Big data analytics based on panfis mapreduce" *Procedia Computer Science*, 144, 140-152 **CiteScore: 4.0 Q2**

J5 **Ahamed, R., Choi, S.-B., Ferdaus, M. M.**, "A state of art on magneto-rheological materials and their potential applications" *Journal of Intelligent Material Systems and Structures*, 29(10), 2051-2095 **IF: 2.7 Q2**

J4 **Rahman, M., Ong, Z. C., Julai, S., Ferdaus, M. M., Ahamed, R.**, "A review of advances in magnetorheological dampers: their design optimization and applications" *Journal of Zhejiang University-SCIENCE A*, 18(12), 991-1010 **IF: 3.2 Q2**

J3 **Ahamed, R., Rashid, M. M., Ferdaus, M. M., Yusuf, H. B.**, "Modelling and performance evaluation of energy harvesting linear magnetorheological (MR) damper" *Journal of Low Frequency Noise, Vibration and Active Control*, 36(2), 177-192 **IF: 2.3 Q3**

J2 **Ahamed, R., Rashid, M. M., Ferdaus, M. M., Yusof, H. M.**, "Design and modeling of energy generated magneto rheological damper" *Korea-Australia Rheology Journal*, 28(1), 67-74 **IF: 1.3 Q3**

J1 **Ahamed, R., Ferdaus, M. M., Li, Y.**, "Advancement in energy harvesting magneto-rheological fluid damper: A review" *Korea-Australia Rheology Journal*, 28(4), 355-379 **IF: 1.3 Q3**

Refereed Conference Contributions

C24. **Ferdaus, M. M.**, Abdelguerfi, M., Ioup, E., Dobson, D., Niles, K. N., Pathak, K., Sloan, S., "KANICE: Kolmogorov-Arnold Networks with Interactive Convolutional Elements," *Proceedings of the 4th International Conference on AI ML Systems*, 2024 **BEST PAPER AWARD Research Track**

C23. Lee, G. Y., Dam, T., Poenar, D. P., Duong, V. N., **Ferdaus, M. M.**, "HELA-VFA: A Hellinger Distance-Attention-based Feature Aggregation Network for Few-Shot Classification," *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2173-2183, 2024 **h5-index: 109 TOP TIER**

C22. Santoso, F., Garratt, M. A., Anavatti, S. G., Wang, J., Tran, P. V., **Ferdaus, M. M.**, "Bio-Inspired Adaptive Fuzzy Control Systems for Precise Low-Altitude Hovering of an Unmanned Aerial Vehicle Under Large Uncertainties," *2024 European Control Conference (ECC)*, 3777-3782, 2024 **IEEE Control Systems**

C21. Solomon, I., Jayavelu, S., **Ferdaus, M. M.**, Kumar, U., "Data Oversampling with Structure Preserving Variational Learning," *Proceedings of the 31st ACM International Conference on Information and Knowledge Management (CIKM)*, 4490-4494, 2022 **h5-index: 91 ACM FLAGSHIP**

C20. Boonlia, H., Dam, T., **Ferdaus, M. M.**, Anavatti, S. G., Mullick, A., "Improving Self-Supervised Learning for Out-Of-Distribution Task via Auxiliary Classifier," *2022 IEEE International Conference on Image Processing (ICIP)*, 3036-3040, 2022 **h5-index: 66 IEEE FLAGSHIP**

C19. Dam, T., **Ferdaus, M. M.**, Pratama, M., Anavatti, S. G., Jayavelu, S., Abbass, H. A., "Latent preserving generative adversarial network for imbalance classification," *2022 IEEE International Conference on Image Processing (ICIP)*, 3712-3716, 2022 **h5-index: 66 IEEE FLAGSHIP**

C18. Dam, T., Pratama, M., **Ferdaus, M. M.**, Anavatti, S. G., Abbass, H. A., "Scalable adversarial online continual learning," *Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML-PKDD)*, 373-389, 2022 **h5-index: 45 ML FLAGSHIP**

C17. Ghosh, J., Lim, S. Y., **Ferdaus, M. M.**, Jayavelu, S., Thean, A. V. Y., "A Simulation Approach to Analyze Bridge-Defects in a 6T-SRAM Bit Cell," *2022 6th IEEE Electron Devices Technology & Manufacturing Conference (EDTM)*, 235-237, 2022 **IEEE Semiconductor**

C16. Dam, T., **Ferdaus, M. M.**, Anavatti, S. G., Jayavelu, S., Abbass, H. A., "Does adversarial oversampling help us?," *Proceedings of the 30th ACM International Conference on Information & Knowledge Management (CIKM)*, 2970-2973, 2021 **h5-index: 91 ACM FLAGSHIP**

C15. Aggarwal, D., Senthilnath, J., Kumar, U., Yadav, V., Kulkarni, S., **Ferdaus, M. M.**, Li, X., "SG-DOL: Self-evolving Generative and Discriminative Online Learning for Data Stream Classification," *2021 International Conference on Data Mining Workshops (ICDMW)*, 322-330, 2021 **h5-index: 52 IEEE**

C14. **Ferdaus, M. M.**, Anavatti, S. G., Garratt, M. A., Pratama, M., "Red-FLC: an Adaptive Fuzzy Logic Controller with Reduced Learning Parameters," *2019 IEEE Symposium Series on Computational Intelligence (SSCI)*, 513-518, 2019 **h5-index: 29 IEEE**

C13. **Ferdaus, M. M.**, "Recent Advancements in Autonomous Intelligent Control Techniques: Design and Implementation," *2019 International Conference on Data Mining Workshops (ICDMW)*, 107-113, 2019 **h5-index: 52 IEEE**

C12. Al-Mahturi, A., Santoso, F., Garratt, M. A., Anavatti, S. G., **Ferdaus, M. M.**, "Online Takagi-Sugeno Fuzzy Identification of a Quadcopter Using Experimental Input-Output Data," *2019 IEEE Symposium Series on Computational Intelligence (SSCI)*, 527-533, 2019 **h5-index: 29 IEEE**

C11. **Ferdaus, M. M.**, Hady, M. A., Pratama, M., Kandath, H., Anavatti, S. G., "RedPAC: A Simple Evolving Neuro-Fuzzy-based Intelligent Control Framework for Quadcopter," *2019 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*, 1-7, 2019 **h5-index: 23 IEEE**

C10. Al-Mahasneh, A. J., Anavatti, S. G., **Ferdaus, M. M.**, Garratt, M. A., "Adaptive neural altitude control and attitude stabilization of a hexacopter with uncertain dynamics," *2019 IEEE International Conference on Industry 4.0, Artificial Intelligence, and Communications Technology (IAICT)*, 44-49, 2019 **IEEE Industry 4.0**

C9. **Ferdaus, M. M.**, Anavatti, S. G., Garratt, M. A., Pratama, M., "Development of Hyperplane-based Adaptive T-S Fuzzy Controller for Micro Aerial Robots," *2019 IEEE International Conference on Industry 4.0, Artificial Intelligence, and Communications Technology (IAICT)*, 50-56, 2019 **IEEE Industry 4.0**

C8. **Ferdaus, M. M.**, Anavatti, S. G., Pratama, M., Garratt, M. A., "A Novel Self-Organizing Neuro-Fuzzy based Intelligent Control System for a AR. Drone Quadcopter," *2018 IEEE Symposium Series on Computational Intelligence (SSCI)*, 2026-2032, 2018 **h5-index: 29 IEEE**

C7. **Ferdaus, M. M.**, Pratama, M., Anavatti, S. G., Garratt, M., "A generic self-evolving neuro-fuzzy controller based high-performance hexacopter altitude control system," *2018 IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, 2784-2791, 2018 **h5-index: 35 IEEE FLAGSHIP**

C6. **Ferdaus, M. M.**, Anavatti, S. G., Garratt, M. A., Pratama, M., "Fuzzy clustering based nonlinear system identification and controller development of pixhawk based quadcopter," *2017 Ninth International Conference on Advanced Computational Intelligence (ICACI)*, 223-230, 2017 **IEEE Computational Intelligence**

C5. **Ferdaus, M. M.**, Pratama, M., Anavatti, S. G., Garratt, M. A., "Evolving neuro-fuzzy system based online identification of a bio-inspired flapping wing micro aerial vehicle," *2017 IEEE Symposium Series on Computational Intelligence (SSCI)*, 1-8, 2017 **h5-index: 29 IEEE**

C4. **Ferdaus, M. M.**, Anavatti, S. G., Garratt, M. A., Pratama, M., "Fuzzy clustering based modelling and adaptive controlling of a flapping wing micro air vehicle," *2017 IEEE Symposium Series on Computational Intelligence (SSCI)*, 1-6, 2017 **h5-index: 29 IEEE**

C3. **Ferdaus, M. M.**, Anavatti, S. G., Garratt, M. A., Pratama, M., "Evolving fuzzy inference system based online identification and control of a quadcopter unmanned aerial vehicle," *2017 International Conference on*

Advanced Mechatronics, Intelligent Manufacture, and Industrial Automation (ICAMIMIA), 223-228, 2017 **IEEE Mechatronics**

C2. Khan, M. J. H., Rashid, M. M., **Ferdaus, M. M.**, "Development of an simplified modeling control system for maximization of polymerization in a pilot plant," *2015 10th Asian Control Conference (ASCC)*, 1-4, 2015 **IEEE Control Systems**

C1. Mizanur, R., Khan, S., Rahman, A., Hrairi, M., **Ferdaus, M. M.**, Shahid, Z., "A Battery Charge Balancing system with reducing inrush high spike current for electric vehicle," *2014 IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)*, 1-6, 2014 **IEEE Smart Systems**

For more information, please visit my **Google Scholar Profile**

Professional Service & Leadership

Editorial & Review Excellence

Premier IEEE Transactions (Top 1% Journals):

- ★ **IEEE Transactions on Fuzzy Systems** — **IF: 10.7**
- ★ **IEEE Transactions on Cybernetics** — **IF: 9.4**
- ★ **IEEE Transactions on Systems, Man, and Cybernetics: Systems** — **IF: 8.6**

Flagship Journals:

- ◆ **ACM Computing Surveys** — **IF: 23.8 FLAGSHIP**
- ◆ **Artificial Intelligence Review** — **IF: 10.7**
- ◆ **Information Sciences** — **IF: 8.1**
- ◆ **Expert Systems with Applications** — **IF: 7.5**

Conference Leadership & Program Committee Service

Program Committee Member:

- ▲ **IEEE Symposium Series on Computational Intelligence (SSCI)** — **h5-index: 29**
- ▲ **IEEE International Conference on Systems, Man, and Cybernetics (SMC)** **h5-index: 35**
- ▲ **IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)** — **h5-index: 23**
- ▲ **International Conference on Advanced Computational Intelligence (ICACI)** **Regional**

Review Statistics & Service Impact:

- ▲ **Premier Journals:** 15+ top-tier journals including IEEE Transactions and ACM publications
- ▲ **International Conferences:** 8+ prestigious conferences with rigorous peer review

- **Reviews Completed:** 75+ comprehensive reviews maintaining high-quality standards
- **Review Turnaround:** Consistently meets deadlines with detailed, constructive feedback

Professional Recognition & Academic Leadership

Professional Society Memberships:

IEEE Computational Intelligence Society	**Active Member**
International Neural Network Society (INNS)	**Active Member**
Association for Computing Machinery (ACM)	**Professional Member**
IEEE Computer Society	**Professional Member**

Awards & Recognition:

- **Best Paper Award** - KANICE: Kolmogorov-Arnold Networks (AI ML Systems 2024)
- **Outstanding Reviewer Awards** - Multiple IEEE Transactions journals
- **Research Excellence Recognition** - University of New Orleans (2024)
- **Graduate Research Excellence** - UNSW Canberra (2019)

Community Engagement & Outreach:

- **STEM Mentorship:** Undergraduate research program coordination and diversity initiatives
- **Industry Collaboration:** Technical advisory roles for AI/ML startups and established companies
- **International Partnerships:** Research collaboration facilitation across USA, Australia, Singapore
- **Academic Service:** Staff search committees, curriculum development, and strategic planning

Professional References

Prof. Mahardhika Pratama
Associate Research Professor
School of STEM, University of South Australia
+61 497 169022
dhika.pratama@unisa.edu.au

Dr. Sreenatha G. Anavatti
Senior Lecturer & Principal Supervisor

School of Engineering and IT, UNSW Canberra
+61 2 6268 8079
agsrenat@adfa.edu.au

Prof. Matthew A. Garratt
Professor & Co-Supervisor
School of Engineering and IT, UNSW Canberra
+61 2 6268 8267
M.Garratt@adfa.edu.au

Md Tamjidul Hoque
Professor
Department of Computer Science, University of New Orleans, LA 70148, USA
+1 504 280 2406
thoque@uno.edu